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OREGON WATER SUPPLY PROGRAM EVALUATION

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DIVISION
PROTECTION AGENCY
REGION X

NUARY 1976

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OREGON WATER SUPPLY PROGRAM

EVALUATION

Drinking Water Programs Branch
Water Division
Environmental Protection Agency
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TABLE OF CONTENTS

Page

INTRODUCTION 1

PLAN OF THE EVALUATION 4

PROGRAM EVALUATION CRITERIA 7

DRINKING WATER SUPPLY AUTHORITY 10

- STATUTORY AUTHORITY 10

WATER SUPPLY PROGRAM ACTIVITIES AND RESOURCES 31

- ENGINEERING SURVEILLANCE AND TECHNICAL ASSISTANCE 34
- WATER QUALITY SURVEILLANCE 46
  - Bacteriological Surveillance 46
  - Chemical Surveillance 47
  - Laboratory Support Services 49
  - Operator Certification and Training 50
  - Certification of Qualified Operators 51
  - Training of Operators 52
  - Program Administration 54

BOTTLED WATER 55

CURRENT STATUS OF PUBLIC WATER SUPPLY SYSTEMS IN OREGON 57

- SURVEY METHODS 58
- SELECTION CRITERIA 58
- REVIEW OF WATER SUPPLY RECORDS 59

PUBLIC WATER SUPPLIES IN OREGON 61

- COMMUNITY WATER SUPPLY SYSTEMS 61
- COMMUNITY WATER SUPPLY SYSTEM SURVEILLANCE 64

TABLE OF CONTENTS

Page

STATE WATER SUPPLY PROGRAM MANPOWER NEEDS 68

CERTIFICATION OF WATER SYSTEM OPERATORS 73

OTHER PUBLIC WATER SUPPLIES IN OREGON 75

STATE DRINKING WATER SUPPLY SUPERVISION PROGRAM 77

EVALUATION CRITERIA 79

CONCLUSIONS AND RECOMMENDATIONS 81

APPENDIX A - COMMUNITY WATER SUPPLY SURVEILLANCE

APPENDIX B - OREGON REVISED STATUTES, CHAPTER 488 AND SENATE BILLS 612 and 616

APPENDIX C - NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS

APPENDIX D - GROUNDWATER QUALITY PROBLEMS IN OREGON

APPENDIX E - LOCATION OF APPROVED BACTERIOLOGICAL LABORATORIES

TABLES

Page

TABLE 1 SUMMARY - COMMUNITY WATER SUPPLIES IN OREGON (By Population) 62

TABLE 2 SUMMARY - COMMUNITY WATER SUPPLIES IN OREGON (By Systems) 63

TABLE 3 COMMUNITY WATER SYSTEMS IN OREGON IN COMPLIANCE WITH BACTERIOLOGICAL STANDARDS 69

TABLE 4 ESTIMATED MANPOWER NEEDS FOR SUPERVISION PROGRAM AND PRIMARY ENFORCEMENT RESPONSIBILITY FOR COMMUNITY AND OTHER PUBLIC WATER SUPPLY SYSTEMS IN OREGON 71

TABLE 5 STAFFING FOR OREGON'S PUBLIC WATER SYSTEM SUPERVISION PROGRAM 72

FIGURES

FIBURES 1 WATER QUALITY AND SYSTEMS COMPLIANCE - PERCENT OF SYSTEMS IN COMPLIANCE 67

INTRODUCTION

The American public expect adequate and safe drinking water to be delivered continuously to their homes, their places of work, their recreational areas and where ever they may travel within the United States. Public and legislative emphases have drawn attention to other environmental concerns, such as water and air quality problems. At the same time, a surprising amount of complacency has developed concerning drinking water.

In order to meet the increasing requirements of pollution control legislation and regulations, the states have committed more and more of their resources to these programs which are receiving public attention. Therefore, less time and money have been devoted to public drinking water supplies and there has been a significant reduction in the supervision and regulation of this public service. Although effective water pollution control is important to minimize contamination of drinking water sources, such control alone cannot suffice to assure delivery of safe and reliable drinking water. As more and more new and exotic wastes are discharged to the environment, better technology and qualified operating personnel are required for awareness of the public health importance of drinking water and the establishment of adequate water supply programs at the state and Federal levels.

The need for this awareness was highlighted by the "Community Water Supply Study - Analysis of National Survey Findings", by the U.S. Public Health Service, 1970. This Public Health Service report revealed that 41 percent of the 969 water systems surveyed were delivering waters of inferior quality to 2.5 million people, and 66 percent of the systems had defects in their physical facilities.

More recently there has been a great deal of concern on the part of the public and water suppliers over reports of the presence of carcinogenic materials in water supplies. For the most part these occur at significantly higher levels in supplies with sources containing high concentrations of natural organic materials and sources subject to contamination with industrial or other wastes. Two nationwide projects are underway for evaluating the concentrations of organics and pesticides in drinking water supplies.

Mr. Bob Oliver, Administrator of the Health Division, Oregon Department of Human Resource recognizes the importance of these considerations to the public and to municipal water departments and companies responsible for distribution of safe drinking water. He also realizes the States responsibility for monitoring the safety and adequacy of public drinking water supplies and for providing technical assistance needed for developing such assurance. Mr. Oliver, on October 30, 1974, requested the Environmental Protection Agency to participate in an evaluation of the adequacy of Oregon's drinking water supply program.

Dr. Clifford V. Smith, Jr., Regional Administrator, EPA, confirmed, in November 1974, EPA's agreement to undertake such a program evaluation. The purpose is to determine the nature of the program, its effectiveness in providing a public water system supervision program and in assuming primary enforcement responsibilities over water supplies serving the public and to recommend measures that will result in improvement of program capabilities.

PLAN OF THE EVALUATION

Purpose

The purposes of the evaluation are to:

1. Determine the adequacy of the present State Water Supply Program to fulfill its responsibilities to the public, to supervise water systems serving the public, and to assume primary enforcement responsibility for such systems,

2. Propose any recommendations necessary for maintenance of an effective State Water Supply Program, thus assuring citizens and visitors a continuous supply of safe drinking water, and

3. Make concurrent determination of the general condition of Oregon's public water supplies.

Discussions between Staff of the Oregon Health Division, Office of Protective Health Services and Mr. William A. Mullen EPA's Drinking Water Programs Branch Chief, led to the conclusion that these purposes could be adequately achieved by evaluation of records pertaining to public water supplies maintained by the Oregon Health Division and by discussions with the staff of the Office of Sanitation Services.

Definitions

The Oregon State legislature in 1975 made extensive changes in state statutes applying to water sypply systems serving the public. These changes were in the form of amendments to Chapter 448, Oregon Revised Statutes (ORS).

It was decided that this evaluation report should be based on water supplies serving the public as defined in Interim Federal Regulations and promulgated under the authority of the Safe Drinking Water Act. For the purpose of this evaluation report the following definitions have been used for water systems serving the public:

1. "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water system is either a "community water system" or a "non-community water system."

A. "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

B. "Non-community water system" means a public water system that is not a community water system.

All except a very few water supply systems serving the public in Oregon meet the definition of "Public Water System" as defined above.

This evaluation is based on designations of water supply systems as defined in the EPA Manual for the Evaluation of a State Drinking Water Supply Program:

1. Public water supply system - any system which provides water to the public for consumption, excluding water sold in bottles or other closed containers.

   A. Community water supply systems - a public system that provides water to 15 or more premises not owned or controlled by the supplier of water or to 25 or more resident individuals.

   B. Other public water supply systems* - all other systems which provide water for public consumption, exclusive of individual water supply systems.

2. Individual water supply system - a water supply system that serves a single dwelling unit occupied by one household.

Discussions were held in November 1974 with Mr. LaVerne Miller, Director of Protective Health Services, Leo Farr, P.E., Chief, Public Health Engineering and Mr. Tom Blair, Chief, Community Sanitation, all in the Health Division of the Oregon Department of Human Resources, to review the scope and criteria to be used in the evaluation of the Oregon drinking water program. It was agreed that the outline and procedures described in EPA's Manual for the Evaluation of a State Drinking Supply Program would be followed. It was further agreed that a representative number of community water supplies would be sufficient to evaluate the effectiveness of the state program. No individual or other water supplies were to be selected for the evaluation.

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*In this evaluation other public water supply systems include those serving mobil home parks as well as such systems as those serving schools, restaurants, and recreation areas.

Two factors were considered in selecting the water supplies to be studied. First was a need to select supplies representative of the size of systems, types of sources, methods of treatment, and geographical distribution throughout the state. Second, was a need to select a sufficient number of supplies to enable comparison of the findings of the Oregon study to those of similar studies in other areas throughout the United States.

To accomplish these objectives it was decided that department files of 55 community water supplies would be examined. These supplies were selected from different population groupings in various geographical areas throughout the state.

The 55 supplies selected are listed in Appendix A along with their location, their respective populations served, and sources of supply.

The 55 supplies serve 57 percent of the people served by community water supplies in Oregon and 47 percent of the population of the state (2,266,000).

PROGRAM EVALUATION CRITERIA

The following basic criteria were considered to be essential elements of the evaluation.

Legal Authority

Recently amended state statutes provide the basis for the state drinking water supply program. This legislation provides for promulgation of rules and regulations by the Health Division with the advice and policy guidance of the State Health Commission. The Administrator of the Health Division provides for the establishment of policies necessary to properly conduct staff activities in the interest of protection of the public health.

In instances where legislation or regulations do not cover a necessary program function, the state agency may develop recommended standards or guidelines to serve this purpose.

Program Elements and Activities

Consideration was given to the following program elements and activities:

1. Sanitary surveys, field inspections and reports (conclusions and recommendations) for community water supplies,
2. Sanitary surveys, field inspections and reports for non-community supplies,
3. Review and approval of construction plans and specifications for water systems,
4. Technical assistance provided for planning, operation and maintenance of community water supply systems,
5. Cross-connection control,
6. Bottled water quality control,
7. Monitoring water quality,

8. Qualification of operators,

9. Fluoridation,

10. Emergency plan of action for each community drinking water supply system, and

11. Alarm or notification system for standards violations, critical situations endangering health, and significant deviations from an established plan.

Inter-Agency or Inter-Disciplinary Elements of the Drinking Water Supply Program

A significant number of activities of a state drinking water supply agency involves inter-agency or inter-disciplinary coordination as well as program effort for implementation. Such things considered under this heading in this evaluation are:

A. Activities:
   1. Certification of water system operators,
   2. Operator training,
   3. Budgeting and other finance methods and procudures, and
   4. Emergency response and epidemiology.

B. Agencies:
   1. Public Utilities Commission as well as the Local Regional Boundary Commissions,
   2. Department of Water Resources,
   3. Oregon Department of Environmental Quality
   4. Oregon Department of Commerce,
   5. Local Health Agencies,
   6. Oregon Department of Agriculture,

7. Oregon State University, and
8. Federal Agencies.

DRINKING WATER SUPPLY AUTHORITY

STATUTORY AUTHORITY

Oregon statues dealing with public drinking water supply systems in the state underwent extensive amendment by Oregon's 1975 legislature. Practically every section in Chapter 448 (See appendix B) of the Oregon Revised Statutes (ORS) was amended. Revisions of the first two sections of the Chapter namely, 448.205 (definitions) and 448.210, (purpose) set the pattern for a completely revised State Drinking Water Supply Program.

Amended Section 448.205 now defines four different water supply systems serving the public in Oregon. These are:

1. "Community water supply system" means a domestic water supply source or distribution system which serves more than three single residences or other users for the purpose of supplying water for household uses, but is neither a municipal water system nor a public utility water system.

2. "Municipal water supply system" means domestic water supply sources and distribution systems owned and operated by a city or a county; or owned and operated by a special district or other public corporation which has independednt tax-levying powers to support the system and which supplies water to a total of 1,000 or more households.

3. "Public utility water supply system" means domestic water supply sources and distribution sytems supplying water for household uses, owned and operated by a person subject to regulation by the Public Utility Commissioner of Oregon and supplying water to a total of 500 or more households.

4. "Public water supply system" means a domestic water supply source and distribution system other than a municipal water supply system or public utility water supply system where water is provided or is available through the single user for public consumption including, but not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel or a group care home.

Other significant definitions in this Section are:

"Domestic water supply source" means any lake, pond, impounding reservoir, water storage facility, water treatment facility, spring, well, stream, creek, river, marsh, ditch, canal or other body of water from which water is derived for municipal, public utility, community or public water supply systems.

"Potable water" means water which is sufficiently free from biological, chemical, physical or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects and which has such other physical properties as to be palatable to humans for drinking purposes.

"Public health hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals and radioactive isotopes.

"Emergency" means the result of any natural elements or mechanical failure which is unpredictable and temporary or infrequent, and which causes a domestic water supply source or distribution system to be temporarily less than adequate.

"Adequate" means a domestic water supply source and distribution system, each sufficient in capability to supply all daily demands and instantaneous demands during periods of maximum use without reduction in pressure below 20 pounds per square inch at any service connection, except during an emergency.

Section 448.210 (purpose) states that it is the purpose of ORS 448.205 to 448.325 and subsections (2) to (6) of 448.990 to promote public health and welfare by providing a regulatory program and related services for:

(1) Domestic water supply sources and,

(2) Community and public water supply systems that will provide for adequate water.

Section 448.210 (purpose) needs further amendment to clarify responsibilities of water purveyors and the health divisions.

Administration

Section 448.215 (Division jurisdiction over domestic water supply sources) establishes jurisdiction over domestic water supply sources in the Health Division (Oregon State Department of Human Resources).

This Section also requires the Division to examine water supply sources periodically to ascertain whether the sources are adapted for use as water supplies for drinking and other household uses or are in a condition likely to cause a public health hazard.

The Division is also required to consult with and advise cities, corporations or firms operating or intending to construct water supply systems, concerning the most appropriate domestic water supply sources, the best practical methods of assuring their purity or of disposing of their drainage or sewage. In so doing the Division is required to consider the present and prospective needs and interest of other cities, corporations or firms which may be affected by its action.

In addition the Health Division has jurisdiction over all community and public water supply systems and is required to cause the systems to be examined periodically to ascertain whether the systems deliver adequate water for household use.

The Division is also required to consult with and advise entities operating or intending to construct community or public water supply systems concerning the best practical methods of delivering adequate water.

Section 448.220 (compliance with rules required) requires compliance with rules and regulations and states that it is unlawful for any person or governmental unit to operate a water supply system in violation of the rules of the Division.

This Section provides further that, "any community or public water supply system or any domestic water supply source, the tentative plans for which have been approved by the Division according to the rules adopted under ORS 448.225 at the time of the approval, and which does not threaten to cause a public health hazard, shall not be subject to rules which may be adopted under ORS 448.245 after the date of approval. However, extensions, modifications or alterations of the systems must comply with all rules adopted under ORS 448.245 and in effect at the time of the extension, modification or alteration is approved pursuant to Subsections (1) and (3) of ORS 448.225".

However, notwithstanding any rules adopted pursuant to ORS 448.205 to 448.325, during an emergency and for a reasonable time thereafter, the Division is required to provide for exemptions when:

(a) Anyone operating a community, public utility or municipal water supply system declares that the time required for compliance with ORS 448.220 causes or is likely to cause a system to supply water that is not adequate or that is a public health hazard.

(b) The Administrator or his authorized representative deermines that the time required for compliance under ORS 448.220 causes or is likely to cause a system to supply water that is not adequate or that is a public health hazard.

However, 30 days after an emergency is remedied the operator of a community, public, public utility, or municipal water supply system shall comply with all rules of the Division.

Water Facility Design and Construction

Section 448.225 (plan approval required before construction of supply system; plan content) requires approval of tentative plans before construction of a water supply system. It is much easier to change plans than to correct structural deficiencies. This Section also outlines plan content and a procedure for resubmission of plans if construction is delayed.

Before operating a community or public water supply system for which tentative plans have been approved, final plans shall be submitted to and approved by the Division, either as originally submitted or as modified to meet requirements in effect at the time of tentative approval. Within 21 days after receipt of the final plans the Division is required to approve the final plans for the community or public water supply system as long as any modifications or alterations of the approved tentative plans meet the requirements of this section. Approval of the final plans of the Division shall constitute approval of the community or public water supply system.

Before constructing a domestic water supply source, the amended statute requires that any person shall submit tentative plans to the Division and must have approval of the plans either as originally submitted or as modified pursuant to the Division's requirements. The tentative plans submitted to the Division are required to show:

(a) The source of supply and the quantity of water available,

(b) The transmission and distribution systems with further information as to the amount proposed to be taken and transmitted,

(c) The number of services to be supplied, and

(d) Any additional data which the Division may require to pass upon whether the proposed system will be in compliance with rules of the division adopted under ORS 448.245.

Approval of tentative plans by the Division is required before constructing or testing a domestic water well.

Final plans must be approved by the Division before operating a domestic water supply source for which tentative plans have been approved.

The Division is required to approve the domestic water supply source final plans provided that required modification or alterations of the approved tentative plans have been made. Approval of the final plans by the Division constitutes approval of the domestic water supply.

The amended Section also requires that the Division must propose modifications to tentative plans within 21 days of submission or the plans will be considered as approved. Tentative plans amended to include modifications pursuant to the Division's standards and resubmitted shall be considered approved upon resubmission. Tentative plans otherwise modified and resubmitted to the Division for approval shall be considered as submitted tentative plans.

Submitted tentative plans neither approved or modified by the Division shall be considered approved by the Division [illegible] submission of a written statement to the Division from the person submitting the tentative plans certifying that the tentative plans meet the Division's standards.

Within three days after resubmission of the tentative plans or within three days after submission of written certification that the tentative plans meet the Division standards, the Division shall issue an unconditional written statement of approval of the tentative plans.

Section 16, Chapter 254, Oregon Laws of 1975, requires that tentative plans for construction of a water supply source must have approval either as originally submitted or as modified pursuant to the Division's requirements.

This Section also provides that before operating a domestic water supply source for which tentative plans have been approved, final plans must be approved by the Division, either as originally submitted or as modified to meet requirements in effect at the time of tentative approval.

The Division is required to approve final plans for a domestic water supply source provided that modifications or alterations have been made in the approved tentative plans to meet requirements pursuant to this section. The statute specifically provides that approval of the final plans by the division shall "constitute approval of the domestic water supply". Both tentative and final plans required under this section are to be prepared by persons qualified to perform such work (Professional Engineers registered in Oregon).

Section 448.230 (samples of water to be submitted for laboratory analyses) provides that water samples should be submitted for laboratory analyses in compliance with rules of the Division by every person or governmental unit operating a community, public utility, municipal or public water supply system. These samples are to be analyzed by a laboratory approved by the Division. The results of the laboratory analyses are to be reported to the "local health administrator" and to the person or governmental unit responsible for the operation of the water supply system.

(It is interesting to note that this Section provides for exemption of railroad companies, which are subject to the jurisdiction of the Interstate Commerce Commission, from the requirements of the sampling provisions).

Surveillance of Water Systems

Section 448.235 (inspection of watersheds) pertains to inspection of water supply watersheds. Sanitary inspections of such watersheds are to made as often as considered necessary by the Division in the interest of public health.

The sanitary inspection is to include an examination of sewage and waste disposal facilities and houses, business establishments, industries and buildings on the watersheds. The sewage and waste disposal facilities referred to above are to be constructed and operated in accordance with the rules of the State Environmental Quality Commission and written reports of all such inspections are to be made promptly to the Division and the Director of the Department of Environmental Quality.

Section 448.240 (inspection of systems) provides that the Administrator of the Division or his authorized representatives may inspect community, public utility, municipal, and public water supply systems to determine whether they or the water supplied therefrom conformed to applicable laws and regulations.

Drinking Water Standards

Section 448.245 (standards for water, water systems, and inspection and testing) requires the Division to:

(1) Prescribe minimum standards for the biological, chemical, radiological and physical quality of water supplied from water supply systems.

(2) Set forth guidelines and minimum requirements for the design, construction, maintenance, interconnection with other water sources and operation of community and public water supply systems to provide adequate and potable water. A guideline as used in this Section is not a mandatory requirement but a suggestion of alternatives for achieving minimum requirements.

(3) Provide criteria and procedures for inspection and testing of water supply systems and existing, new and undeveloped domestic water supply sources to determine that the water is potable.

(4) Determine types of materials not suitable for construction of water systems where use of such materials has been found to cause a public health hazard. Any rule designating such hazardous materials shall include the basis for the findings of the Division.

Section 448.250 (remedy when water supply a health hazard) provides a remedy when a water supply presents a health hazard. The remedy is to be applied as follows:

(1) Whenever a community, public utility, municipal or public water supply system or part thereof presents or threatens to present a public health hazard requiring immediate action to protect the

public health, safety and welfare, the Administrator may request the District Attorney of the county to institute a suit in equity. The suit may petition for a mandatory injunction compelling the system to cease and desist operation or to make such improvements and corrections as are necessary to remove the public health hazard or threat.

(2) Cases filed under provisions of this Section or any appeal shall be given preference on the docket over all other civil cases except those given an equal preference by statute.

(3) Nothing in this Section is intended to prevent the maintenance of actions at law or suits in equity relating to private or public nuisances or for recovery of damages brought by private persons or by the state on relation of any person.

Section 448.255 (notice of alleged violations; order; hearing; appeal) provides that there shall be a notice of alleged violation or rules whenever the Administrator of the Division has reasonable grounds to believe that a community, public utility, municipal or public water supply systems or part thereof is being operated or maintained in violation of any rule adopted pursuant to ORS 448.270. The written notice is to be given to the person or governmental unit responsible for the system or facility. The Section further describes what should be included in the written notice and how it shall be served. It also provides for hearing procedures.

Section 448.260 (order where supply inadequate) provides for issuance of an order by the Administrator of the Division whenever a water supply in a community or public water supply system is not adequate. The order may restrict waters usage to essential needs; prohibit the installation of additional service connections; prohibit any extension of the system; or any combination of these restraints.

This Section also provides for an appeal from such an order by any person or governmental unit aggrieved by any order of the Administrator issued under this Section.

Section 448.265 (prohibited action; nuisance abatement) restricts practices which may pollute a domestic water supply source or might destroy or endanger a public, municipal, public utility or community water supply system.

Section 448.270 (rules of the Division) provides that the Division shall adopt such rules as it considers necessary and proper for the purpose of carrying out the provisions of Sections 448.205 and 448.325 as well as Section 448.990. This is to be done in accordance with applicable provisions of the administrative procedures and rules of state agencies, Chapter 183.

Section 448.275 (contract with counties) provides that the Administrator of the Division may contract with district or county boards of health to perform the duties of the Administrator of the Division under Section 448.230 (samples of water to be submitted for laboratory analyses; reports; exceptions) and Section 448.240 (inspection of systems).

Civil Penalties

Section 448.280 (civil penalties) provides that if, in addition to any other penalty provided by law, any person violates any rule of the Division relating to the construction, operation or maintenance of a community, public utility, municipal or public water supply system, a civil penalty may be incurred not to exceed $500 for each day of violation.

Section 448.285 (penalty schedule; factors to be considered in imposing penalty) provides for a penalty schedule and for identification of factors to be considered in imposing penalties. No civil penalty shall exceed $500 per day.

Section 448.290 (when penalty due; notice; hearing; order as judgement) indicates when penalties are due; describes a procedure for issuing notices, provides for hearings, and issuance of an order as a judgement.

Section 448.990 (penalties) sets up penalties for violation of Sections 448.225 (plan approval required before construction of supply systems; plan content; resubmission if construction delayed), Section 448.235 (injunction to enforce city ordinances) or Section 448.220 (compliance with rules required), 448.230 (samples of water to be submitted for laboratory analyses; reports; exception), failure to comply with any order issued by the Administrator of the Division pursuant to the Section 448.260 (order where supply inadequate) by any owner or public or private official or person responsible for the operation of a community or public water supply, violation of any rule of the Division adopted pursuant to Section 448.205 to 448.325 (water supply system) or by Section 448.265 (prohibited actions; nuisance abatement), or Section 468.770 (prohibitions relating to garbage or sewage dumping into waters of the state).

City Authority

Section 448.295 (jurisdiction of cities over property used for system or sources) describes jurisdiction of cities over property used for their domestic water supply sources. While Section 448.215 (Division jurisdiction over domestic water supply sources) gives the Division jurisdiction over domestic water supply sources to the extent that the Division is to examine sources and surroundings periodically to ascertain whether the sources are adapted for use as water supplies for drinking and in relation to provision of consultation and advice to cities operating or intending to construct community or public water supply systems concerning the most appropriate domestic water supply sources and the best practicable method of assuring their purity or of disposing of their drainage or sewage. Section 448.295 gives cities jurisdiction over all property:

1. Occupied by the distribution system or by the domestic water supply sources by and from which the city provides water,
2. Property acquired, owned or occupied for the purpose of preserving or protecting the purity of the domestic water supply source, and
3. Property acquired, owned or occupied by cities within the areas draining into the domestic water supply sources.

Section 448.300 (city ordinance authority to enforce ORS 448.295 (jurisdiction of cities over property used for system or sources)) provides that a city, by ordinance, may prescribe what acts constitute offenses against the purity of its water supply and the punishment or penalties for such acts and may enforce those ordinances within its corporate limits and on property over which it has jurisdiction.

Section 448.305 (special ordinance authority to enforce ORS 448.295 (jurisdiction over property used of cities for system or sources) refers to special ordinance authority of certain cities. A city by ordinance may control recreational use of its water supply watershed area or by ordinance may permit any such activity in its watershed area on conditions specified in the ordinance. These restrictions or permits however, may be applied only by cities with respect to watershed areas which are the subject of an agreement between the city and the U.S. or any department or agency thereof and where such agreements authorize such actions by the city.

The ordinance must provide for a penalty upon conviction or a fine of not more than 100 dollars or imprisonment for not more than 30 days or both such fine and imprisonment.

After adoption of an ordinance under this Section, the city is required to post the area with suitable signs setting forth the prohibition of access or the condition of permits imposed by the ordinance.

Section 448.310 (investigation of complaints) requires the person in charge of a domestic water supply source or a community water supply system serving a city to investigate complaints made to him concerning purity of the source or system and, if the complaint appears to be well founded, file a complaint against the person violating ordinances of the city and to cause his arrest and prosecution.

Section 448.315 (special police to enforce ordinance ORS 448.295). The mayor or authorities of a city having control of its community water supply systems supplying the city may appoint a special policeman who will have the power to enforce the city ordinances and authorities pertaining to the community water supply system supplying the city for which he is a special policeman.

Section 448.320 (jurisdiction over violations of city ordinances) provides that the Municipal or recorders court of any city passing an ordinance under authority of ORS 448.300 or 448.305 and the Justice of the Peace Court or District Court of the County in which city is located or in the watershed is located shall have concurrent jurisdiction to try and determine any prosecutions brought under such ordinance.

Section 448.325 (injunction to enforce city ordinances) provides that in case of violation of any ordinance adopted under ORS 448.300 or 448.305 any city owning a domestic water supply source or the community water supply system for the purpose of supplying any city or its inhabitants with water may have the nuisance enjoined by civil action in the circuit court of the proper county.

Other Applicable Statutes

ORS Sec. 654.105 was repealed in 1973 and Sec. 654.241 was enacted in its place.

Sec. 190.110 (authority of units of local government and state agencies to cooperate). This section provides that a unit of local government or a state agency may cooperate, by agreement or otherwise, with a unit of local government or a state agency of this or another state, or with the United States, or with a United States Government Agency in performing a duty imposed upon it or in exercising a power conferred upon it. This power to cooperate by agreement or otherwise includes power to provide jointly for administrative officers.

Sec. 454.685 (order limiting or prohibiting construction; factors to be considered). Whenever the Environmental Quality Commission finds that the construction of subsurface sewage disposal systems or nonwatercarriage sewage disposal facilities should be limited or prohibited in an area it is authorized to issue an order limiting or prohibiting the construction. In issuing such an order the Commission considers, among other factors: (1) the porosity and absorbency of soil, (2) any geological formations which may adversely affect the disposal of sewage effluent by subsurface means, (3) ground and surface water conditions and variations from time to time, (4) present and projected availability of water from unpolluted sources, and (5) type of and proximity to existing surface waters.

Section 447.020 (plumbing to conform to requirements; enforcement). This section requires that all installations of plumbing and drainage in buildings and structures in Oregon and all potable water supply draining and waste installations within or serving buildings shall be made in accordance with requirements of this Chapter.

Section 447.140 (waste and sewage; requirements; prohibitions). This section provides that no plumbing fixture, device or equipment may be installed, maintained or offered for sale which will provide a cross-connection between the distribution system of water for drinking and domestic purposes and any other water supply, or a drainage system, soil or waste pipe so as to permit or make possible the backflow of contaminated water, sewage or waste into the water supply system.

ORS 92.445 (water and sewage plans required; exception). This section provides that no subdivider of a real estate subdivision may sell or enter into any contracts for the sale or lease of a lot or parcel in the subdivision until preliminary plans have been submitted to the Oregon Department of Environmental Quality for provision of domestic water supply and sewage disposal facilities. This section, however, does not apply to those subdivisions which have been approved for the purpose of building homes to be financed by the Federal Housing Authority Insured Loans or Veterans' Administration Guaranteed Loans.

Section 757.005 ("public utility" defined) defines a "public utility" as any corporation, company, individual, association of individuals that owns, operates, manages or controls a plant or equipment for the production, transmission, delivery or furnishing of water to or for the public whether or not such plant or equipment is wholly within any town or city.

This section further states the "public utility" does not include:

1. Any water system owned by a corporation organized under the Oregon Non-Profit Corporation Law, or

2. Any water utility serving less than 200 customers at a rate of $10 or less per month, which provides adequate and non-discriminatory service, and has less than $20,000 annual gross operating revenues.

Section 431.715 (resolution requesting Division to initiate formation or annexation). The County Court or the local or District Board of Health, having jurisdiction over territory where it believes conditions dangerous to the public health exist, may adopt a resolution requesting the Division to initiate proceedings for the formation of or annexation of territory to a District without vote or consent in the affected territory.

The requesting body is required to make a study and prepare preliminary plans and specifications for the service facilities (e.g., drinking water supplies) considered necessary to remove or alleviate the conditions causing a danger to public health. The requesting body is also required to prepare a schedule setting up the steps necessary to put the facility into operation and the time required for each step in implementation of the plan.

Upon receipt of a certified copy of the resolution referred to in Section 431.715, the Division shall review and investigate conditions in the affected territory. If it finds substantial evidence that a danger to public health exists in the territory, it shall issue an order setting a time and place for a hearing on the resolution.

Section 431.725 provides further that if the Administrator of the Health Division finds that a danger to public health exists because of conditions within the territory, and that such conditions could be removed or alleviated by the provisions of service facilities specified, he shall enter his findings in an order directed to the officers of the Boundary Commission concerned.

Sec. 431.740 provides that the Division and the Commission shall use their applicable powers of enforcement to insure that the service facilities are constructed or installed in conformance with the approved plans and schedules.

An alternative to the formation of a District is provided for in Section 431.745 (petition for alternative plan). A petition for the alternative shall state the intent of the residents of the territory involved to seek annexation to an existing city or special district authorized by law to provide service facilities necessary to remove or alleviate the dangerous conditions.

Chapter 627, ORS, and Sections 32-200 through 32-250 of the Oregon Administrative Rules Compilation pertain to the manufacture of ice. This statute and related regulations provide for inspection of ice manufacturing plants and use of an approved community or public water supply system for all water used in an ice plant. The statute also provides for sampling and condemnation of adulterated ice.

WATER SUPPLY PROGRAM ACTIVITIES AND RESOURCES

Program Organization and Administration

Most water supply systems that serve the public in Oregon are supervised by the State Department of Human Resources, Health Division, Office of Protective Health Services. Within the Office of Protective Health Services, community water supply systems are administered by the Public Health Engineering Section. Other public water supply systems are administered by the Community Sanitation Division. Individual water supply systems are also handled by the Community Sanitation Section.

There are two advisory boards which serve the Office of Protective Health Services in matters concerning water systems which serve the public. These are the Water Works Operators Certification Committee and the Sanitary Engineering Advisory Committee.

There are several other state departments that have important responsibilities for parts of the drinking water supply programs in Oregon. These are identified as follows:

1. The State Department of Agriculture has the legal and regulatory responsibilities for administering the state's Bottled Water Program. Oregon statutes require that this be done with the cooperation of the State Health Division.

2. The State Public Utilities Commission has jurisdiction to set water rates, and also to approve areas of service in seven

counties over certain privately owned water utilities serving the public.

3. The State Department of Water Resources has responsibilities which have special significance in the protection of groundwater sources for water supplies serving the public, as well as for water supplies serving individuals.

Department of Commerce has responsibility for review and approval of plans for water systems (other than source) that serve mobil home parks. The Department of Commerce also administers the state plumbing code including on premise control of cross-connections and back siphonage.

It is understandable that there is some confusion between agencies and on the part of the public in understanding the division of responsibilities and in knowing what agency or agencies have primary responsibilities. The Health Division should promote interagency communication and understanding of each other's activities.

The principle activities of an adequate state water supply program are:

1. Surveillance and technical assistance are of primary importance. Special attention must be given to the protection and the location of various parts of the system, especially to the source, storage, distribution, and treatment including their design, construction, operation and maintenance. These factors pertain primarily to physical features of the system and its parts. Adequate surveillance and technical assistance include the following:

a. thorough, periodic sanitary surveys and inspections of existing public water supply systems,

b. water facility construction surveillance, including review of preliminary engineering studies, plans and specifications, (The basis of plan review is that changing plans is less expensive to the taxpayers than changing structures.)

c. general technical assistance to support water supply activities of other state agencies, local health departments, and federal agencies,

d. planning for normal and emergency operations,

e. participation in reporting waterborne diseases,

f. critical evaluation and use of water supply data, and

g. enforcement of water supply statutes and regulations.

2. Bacteriological sampling of each public water supply:

a. sampling at a level of frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. (See appendix C)

b. procedures to assure immediate location and correction of sanitary defects, resampling and necessary follow up when unsatisfactory bacteriological results are encountered.

3. Periodic chemical analyses should be made of all public water supplies.

4. The reliability of laboratory analyses both bacteriological and chemical should be assured through use of laboratories that have been evaluated and certified by the state.

5. Competence and qualification of system operating personnel should be assured through operator training and certification.

A primary objective of a state drinking water supply program evaluation is to determine the resources necessary for the state to conduct an effective program.

ENGINEERING SURVEILLANCE AND TECHNICAL ASSISTANCE

Criteria for the surveillance of water supply systems serving the public are provided in the EPA Manual for Evaluating Public Drinking Water Supplies: "Frequent sanitary surveys shall be made of the water supply system to locate and identify health hazards which might exist in the system". The frequency of sanitary surveys and inspections will vary depending on the nature of the systems. It is desirable, however, that such a survey or inspection be made annually for each system. These should be supplemented by follow up visits to correct specific problems.

The purpose of sanitary surveys of public water supply systems is to identify and describe sanitary defects and health hazards which might exist in the systems and to schedule their correction or removal.

A public water supply system may be described as including "the works and auxiliaries for collection, treatment, storage, and distribution of the water from the source of supply to the free-flowing outlet of the ultimate consumer". Sanitary protection is concerned with all those parts of a water system that come within this description.

Proper evaluation of a public water supply requires a careful study of the source, operation, maintenance and treatment practices as well as protection of all parts of the system. A sanitary survey is of primary importance in this evaluation. If the survey reveals sanitary defects (health hazards) its safety cannot be assured even if bacteriological and chemical quality are satisfactory in all respects.

As a minimum, a compilation and an evaluation of existing facilities and operating procedures is required. The following is an example of the necessary information if such facilities are provided:

1. The complete sanitary survey of the water system and its environment from source to the consumers' tap;

2. A description of the water system's physical features including adequacy of supply, reliability, treatment processes and equipment, storage facilities, and delivery capabilities;

3. An analysis of 12-month bacterial records and current chemical records on water delivered to the consumers. Samples and analyses of the water from the source and from the treatment plant may also be analyzed if treatment is provided.

4. An analysis of operating records showing present capacity, water demands, production to meet demands, and anticipated future demands;

5. A review of management and operation methods and of the training, experience, and capabilities of personnel;

6. A review of treatment plant and supporting laboratory equipment and procedures, including the qualifications of the laboratory personnel;

7. A review of State and local regulations and plumbing codes and their implementation;

8. Evaluation of emergency plan;

9. A summary and analysis with recommendations for correction of conditions pertinent to all water-system-related sanitary defects (health hazards) that were observed during the sanitary survey including cross connections, lack of adequate pressure and an evaluation of consumer complaints.

Health hazards are "any conditions, devices, or practices in the water system and its operation which create, or may create, a danger to the health and well-being of the water consumer. An example of a health hazard is a structural defect in the water supply system, whether of location, design, or construction, which may regularly or occasionally prevent satisfactory purification of the water supply or cause it to be polluted from extraneous sources". Structural defects are often referred to as sanitary defects and are examples of health hazards. Detection of health hazards requires a careful survey of the entire water supply system. Complexity of this task varies from the relatively simple investigation of a single well supply and limited distribution system to the involved survey of a supply that includes complete treatment facilities and complex source, distribution and storage systems.

Qualified engineers or sanitarians should make sanitary surveys of public water supplies. Competence of surveyor determines the reliability of the data collected and their proper interpretation. Although qualifications constituting his competence cannot be perfectly defined, he should be able to carry out the objective of the sanitary survey; to collect sufficient information to evaluate the features of the water supply from source to tap, employing maps and sketches where appropriate. A description of the physical features of a water supply should include:

1. The name, the location and the owner of the supply;
2. A description of sources and catchment areas;
3. A description of the storage available before and after treatment; and
4. A description of the system including date of installation of the main works, changes in ownership and a record of major extensions or alterations made since the last survey.

Design and Construction

An important part of a state water supply program concerns the review of preliminary engineering feasibility studies and the review of construction plans and specifications for all new water supply facilities, as well as for modification of existing facilities. Changing or modifying plans is much easier than changing structures. Approval of a new facility should also include the approval of the source of supply. This review and subsequent inspections reduce the development of potential problems and proper system modifications can expeditiously correct existing problems. A formal approval should be issued after an engineering report, and plans and specifications have been received and found to meet minimum design criteria and requirements of Rules and Regulations.

Preliminary Engineering Studies and Source of Supply

One important reason for a preliminary study of a proposed drinking water supply project is the determination of the adequacy of both quantity and quality of the water supply source. A careful review of the source of supply is critical to the later review of plans and specifications since the design of treatment plant facilities is largely based on the quantity and quality of the source. If the source is not adequately protected by natural means, it must be protected by treatment. The EPA Manual for Evaluation of Public Drinking Water Supplies includes detailed information about sanitary requirements for water source protection. In addition, the EPA National Interim Primary Drinking Water Regulations serve as a guide in evaluating quality of the water supply source.

In the interest of controlling the proliferation of small water supply systems, there are many instances where interconnections with existing systems should be given consideration.

Review of Plans and Specifications

The drinking water supply program agency should provide a thorough and comprehensive engineering review of plans and specifications for construction of all new drinking water facilities and modifications of existing facilities. These reviews should be based on comprehensive facility criteria and standards which provide the basis for the review of plans and specifications submitted by the designing engineer. Such plans and specifications should be prepared (and reviewed) by an engineer licensed to practice professional engineering (in the state of Oregon).

Special Surveillance Activities

Although cross-connection control, fluoridation of fluoride deficient public water supplies and the regulation of bottled water quality can all be considered a part of normal surveillance activities, they are given separate consideration because of their special character.

a. Cross-connection control

A primary objective of the state water supply agency's cross-connection control activity is encouragement and support of local programs for backflow prevention and cross-connection control by owners and managers of water supply systems serving the public. Cross-connections are serious health hazards which cause, in many known instances, the spread of dangerous waterborne disease, chemical poisonings and death. Most communities do not have effective cross-connection control programs and much remains to be done in the areas of public awareness, training, location and correction of these hazards.

The judgement of the effectiveness of a state cross-connection control program can be based upon: 1) the success in implementing the cross-connection regulations and the degree to which local programs are promoted and supported, 2) the extent to which cross-connection control programs are established and enforced at the local or municipal level, and 3) the scope and effectiveness of education and training provided by the state program.

The overall effectiveness of a cross-connection control progam depends on the support of local government and administrative officials as well as a program of health education for the general public. A prerequisite to good control is the stimulation of equipment manufacturers, planners, designers, inspection and construction personnel and water utility maintenance personnel to a realization of the importance of this type of water system defect. A positive educational and training program at the state level is vital to the establishment of an effective cross-connection control program.

b. Fluoridation

Fluoridation of fluoride deficient public water supplies is an important and urgently needed public health measure which is effective in significantly reducing the incidences of the disease, dental caries. Where fluoridation is practiced, the water supply program has a responsibility for establishing criteria and approval of plans, and the surveillance of the fluoridation installation after the system is put into operation.

An adequate level of fluoride ion in the distribution system is the single most important factor in evaluating the adequacy of a community water fluoridation effort. Check samples should be submitted to the state for fluoride ion analyses on a regular basis. Such installations should receive periodic inspections at least annually, by representatives of the state water supply program agency.

In addition, monthly operations reports should be submitted to the state. These should include the results of daily analyses of fluoride ion content of the finished water, periodic analyses of the raw water and daily calculations of the theoretical fluoride level and dosage based on the quantity of fluoride fed to the volume of water treated.

c. Bottled Water

Bottled water distributed for use as drinking water should comply with the same health-related constituent limits, and monitoring requirements of the National Interim Primary Drinking Water Regulations that are applicable to all other public drinking water supplies. In Oregon, surveillance and enforcement of these standards is a function of the State Department of Agriculture. This agency should have an effective surveillance and enforcement program to ensure that bottled water sold in Oregon is meeting the requirements of the State's Drinking Water Standards.

Technical Assistance

The state drinking water supply agency may provide engineering and technical assistance in a variety of ways. Often when water supply responsibilities are divided among a number of state or local agencies, the principle water supply agency provides advisory and coordinating service as well as support. Some of these activities may include small public water supplies under the administrative responsibility of the State and/or local health departments. Another activity to which the agency may lend its support and assistance is bottled water. These activities are important and time consuming enough that the agency must budget time and resources to carry them out.

Planning

In light of the problems which develop as a result of the proliferation of small underdesigned and poorly operated systems in some areas, it is desirable for the state program agency to encourage the orderly development and planning of public water supply systems.

The problem of small systems which is common to most states includes such things as problems of financing the basic plant, equipment, supplies and operation which are necessary if they are to meet minimum water supply standards. The large numbers of small water supply systems are a major part of the responsibility and workload of the sanitary engineers and sanitarians who must provide a program for their regulation and sanitary control. This problem is compounded because the majority of small systems which must be supervised, provides services to relatively few customers.

Where possible and economically feasible, the physical and/or managerial consolidation or regionalization of existing small water supply systems into larger, more viable single units is a definite advantage to the public served. Such consolidation or regionalization should therefore be actively sought and promoted by the state.

The state water supply program should include the following areas of planning activity:

a. acquisition and a periodic review of comprehensive area land-use and development plans;

b. the active promotion of consolidation or regionalization of existing small water systems where possible or economically feasible;

c. a review of preliminary engineering studies to determine the feasibility of consolidation;

d. strict requirements on the design, construction and operation of small systems to discourage their proliferation;

e. emergency measures and mutual aid for supplies and equipment; and

f. alternative energy needs and priorities.

Waterborne Disease Reporting

In spite of the fact that waterborne disease outbreaks occur much less frequently in this country than elsewhere, such outbreaks still occur and the frequency of occurrence is on the increase in the U.S. The occurrence rate is unusually high in Oregon. If the entire U.S. residential population had the same occurrence rate as Oregon, then there would be almost 1026 occurrences in the U.S. rather than the 175 that actually occurred in the 11-year period from 1961 to 1972.

These outbreaks cause, on the average, about 1600 illnesses and 1 death per year. Unusual occurrences of any diseases are reported by the individual states to the Public Health Service Center for Disease Control. It is estimated that only about half the outbreaks which occur are thus reported. Too often the investigation of outbreaks is incomplete and conducted long after the outbreak occurs. There has been an increasing frequency of occurrences of these outbreaks in Oregon since 1961.

There are a number of ways that a state can improve the detection, investigation, and reporting of waterborne disease:

a. establish an epidemiological team to investigate suspected or reported waterborne disease outbreaks; (ODHR has a state epidemiologist.)

b. establish a cooperative agreement among the state, county and local agencies that are involved in such activities as water supply surveillance, food and drug regulation, and restaurant and milk sanitation, to centralize reporting of disease outbreaks;

c. establish an agreement with the State Medical Association to report the occurrence of selected diseases related to drinking water; and

d. record all known waterborne disease outbreaks, suspected waterborne disease occurrences and all investigations.

Data Management

An immense quantity of data must be collected, evaluated, and filed for the successful management of a state drinking water supply program. Public Law 93-523 and its regulations establish monitoring and reporting requirements which will require an integrated ADP system. Information on bacteriological and chemical surveillance, engineering inspections, sanitary surveys, and monthly water system operating reports for community water supply systems is essential. The monitoring requirements for non-community systems is not as comprehensive, but their greater numbers will generate a vast amount of data. Several hundred community systems and almost 2,000 non-community systems have already been inventoried by the State.

The sheer volume of data anticipated from these supplies dictates a computer system. Such a system could be developed utilizing 10 subsystems or files of data handling capability as shown below:

1. Inventory,
2. Water quality compliance,
3. Variance and exemptions,
4. Federal Reports,
5. Certified laboratory inventory,
6. Enforcement actions,
7. Regulations up-dating (time base),
8. Mailing address,
9. Sanitary surveys (priority, schedule, and classification of results), and
10. Management reporting.

Subsystems can be integrated to provide the management information needs and federal reporting requirements of the Safe Drinking Water Act.

WATER QUALITY SURVEILLANCE

Bacteriological Surveillance

Criteria contained in the National Interim Primary Drinking Water Regulations and Manual for Evaluating Public Drinking Water Supplies should be used in evaluating the bacteriological surveillance of public drinking water supplies. The number of samples and frequency of sampling is contained in the Regulations and is based on population served by a distribution system. Bacteriological monitoring is an operational procedure to be performed at the expense of the water utility. However, the state is responsible for performing a minimum of analyses to assure itself that the sample collection and analyses by the water utility are properly performed. The state should also provide bacteriological surveillance sufficient to check laboratory analyses conducted by and for public water supplies and, in the case of small systems which lack laboratory capability, bacteriological surveillance sufficient to meet the Regulations. The state should undertake periodic surveys of laboratories (at least every three years) and continually compare state laboratory results with the result furnished by the utilities.

Each month the state or local health agency should examine for each water supply system serving the public 5 percent of the distribution system samples required by the Drinking Water Regulations.

When bacteriological samples show contamination in three or more of five fermentation tubes (10 ml) or a membrane filter count of five or more coliforms per hundred ml, the cause of the problem (sanitary defect(s)) should be located, corrected and daily check samples should be collected from the same sampling point until the results from two consecutive samples show the absence of coliform bacteria. It is particularly important that the lapsed time between the determination of contamination by the laboratory and the notification of the supply that resampling is necessary, must be kept as short as possible. This requires telephone notification rather than mail service. Preferably, resampling should begin the same day laboratory results become available. This requires close communication between the water supply program office and the laboratory.

Review of bacteriological laboratory results and a systematic procedure to examine and record bacteriological data from the state and the water utility laboratories should be provided by the program office. Failure to review results reported from the laboratory or a review of results performed sporadically and in an unsystematic manner can allow serious bacteriological problems to go undetected and uncorrected.

Chemical Surveillance

The principal features of a chemical surveillance program for a water supply serving the public are:

a. a program policy or regulations that specify the frequency and type of chemical determinations for each public water supply;

b. adequately equipped and staffed laboratories to handle the number of chemical analyses specified;

c. a reporting system and record keeping procedures to assure continual updating of the files and to facilitate a systematic check of the data and type of previous chemical analyses; and

d. an action program designed to eliminate the hazard when health limits for chemical constituents are exceeded.

The purpose of sampling and analyzing drinking water for physical and chemical characteristics is to determine if it is in conformance with the Drinking Water Regulations. Compliance with the limits of these regulations should be based on the collection and analyses of samples that are representative of water quality in the distribution system.

As a minimum, a complete chemical analysis should be made annually for surface supplies, and triannually for groundwater supplies. These analyses should include all the constituents listed in the Drinking Water Regulations.

These chemical monitoring criteria are based on the National Interim Primary Drinking Water Regulations.

It is recognized that a large number of water supply utilities do not have the capability to make some of the more important health-related analyses listed in the Drinking Water Regulations. Where this capability does not exist, water purveyors should arrange with private laboratories for this service. The state should assume responsibility for sufficient sampling and analyses to provide quality control.

Laboratory Support Services

Laboratory support capability is a vital element in a state drinking water supply program. Both bacteriological and chemical laboratories should be sufficient in number, staff and equipment to handle the number of samples specified. Laboratories should be strategically located geographically to provide for minimum bacteriological sample travel time.

Laboratory Evaluation and Certification

Evaluation and certification of all laboratories examining the bacteriological and chemical quality of drinking water supplied to the public are considered necessary for the proper operation of a state water supply program. To produce reliable data it is essential that approved laboratory methods be adopted in all laboratories which monitor public water supplies.

The National Interim Primary Drinking Water Regulations relate not only to water quality but also to laboratory methods and technical competency of laboratory personnel. Laboratory results may be accepted from the laboratories of the state agency, local government laboratories, water works authorities and commercial laboratories, but only when these laboratories have been approved for use by the state water supply agency. Traditionally, EPA has approved the state bacteriological laboratories, which in turn, through qualified laboratory survey officers, certify the laboratories of local health departments, water works authorities, and commercial establishments.

The goal of the state evaluation and certification program should be to upgrade techniques and procedures in all laboratories engaged in drinking water analyses so that their data are acceptable for official use in monitoring public water supplies.

The basic purpose of a laboratory evaluation is to extend technical consultation that will lead to improvements in overall service and reliability of data. The EPA Handbook for Evaluating Water Bacteriological Laboratories serves as a guide for conducting evaluations.

EPA's Office of Research and Development is preparing guidelines for a national analytical quality control program which include chemical laboratory certification.

The optimum frequency of the state public health laboratory evaluations appears to be once every three years. Experience indicates that visits at more frequent intervals yield little value to either the staff or the program while longer intervals result in an increased number of deviations observed. Obviously, where there are major difficulties or a large turnover of laboratory personnel, evaluations should be performed more frequently, depending upon the individual situation.

Operator Certification and Training

The operation of drinking water supply facilities must rest in the hands of persons qualified by training and experience. This is becoming more important each year as improved technology in water treatment increases the complexity of operational requirements and the public demand for improved water quality and service increases.

The establishment of a program to achieve a high standard of operational performance should be a first level objective of a state water supply program. Mandatory certification is essential to meet this goal. Short schools, correspondence courses, courses at Junior Colleges and vocational schools and frequent visits by competent regulatory agency personnel are all a part of a good program.

Certification of Qualified Operators

Certification should be required of all operators of water treatment plants and water distribution systems who can meet the minimum qualifications of a given classification. Certification should insure that every operator in responsible charge of a water treatment plant or a water distribution system holds a certificate in a grade equal to or higher than the grade of the facility he operates. In addition to a technically qualified chief operator (or manager), the water plant and distribution system should also be staffed with an adequate number of competent (preferably certified also) operators and maintenance men some of which are qualified to handle the operations in the absence of the chief operator or during an emergency situation.

The Association of Boards of Certification for Water and Wastewater Utilities Operating Personnel concludes that: "Existing and future certification programs should recognize the need for a career ladder in utility operations and management, and that the practice of certifying only one person per facility is becoming obsolete. Personnel in charge of an operating shift should be certified at no less than one level below that of the facility classification. All other operating personnel who may affect the quality of operation or a final product should be encouraged to become certified at some level."

The level of qualification required for water treatment system operators and distribution system personnel should be based on the size and complexity of the system operated. This requires the development of a classification system for facilities.

Certificates should be issued in a comparable classification without examination to any person who holds an operators certification from any state, if, in the opinion of the Water Works Operators' Certification Committee, the requirements for certification of operators under which the person's certification was issued do not conflict with requirements of their program and are of a standard not lower than the requirements of their program.

Training of Operators

The education and training of water utility personnel is fundamental to a successful certification-of-qualification program. Education and training needs should be identified separately. Too often training is emphasized at the expense of education. The professional needs in water supply facilities management cannot be met through training alone. Training and educational programs should be available for professional regulatory personnel, utility management and supervisory personnel, and water facility laboratory and operating personnel. Many types of training are available. In general, the basic role of the 2- and 4-year colleges are educational and that of the trade and vocational-technical schools are training. Courses at vocational schools and Junior Colleges may vary in length from a few weeks or months to two years and may be conducted on the basis of 40 hours per week.

Many state water supply agencies provide or support operator training by conducting a number of "short courses". These courses have, for the most part, been designed to review existing knowledge and make available information concerning new developments.

State educational institutions and private concerns should be encouraged to develop basic training courses for operators. Certain unique characteristics exist in the water supply fields that engender special training needs. Cooperative efforts may be required of the state water supply program agency, the State Department of Education, and the private and commercial educational institutions to insure the availability of a viable education and water supply training program. It is suggested that the basic responsibility for operator training resides with the water utility and the operator. This approach to training is also supported by the American Water Works Association and the Association of Boards of Certification.

Probably the single most important and effective action that the state water supply program can employ that will improve operators and plant operation is the in-plant training and assistance that is normally given during regular inspections and technical assistance visits to the utility. The state water supply engineers or professionals conducting the inspections or visits should be training oriented and tactful in pointing out deficiencies and suggesting improvements. Such visits can be a powerful force for operator improvement, and, hence, operations improvement.

Program Administration

The Administration of a water supply program includes a number of key activities. Administrative and management activities will involve a considerable portion of the costs for conducting a program. The principal functions of program administration are efficient management, coordination and planning for a comprehensive state-wide water supply program and its related activities. Administrative and management elements of a state program will include:

A. Development of policy and coordination of program activities.

(1) development and implementation of program policy

(2) development of staffing and budget needs

(3) provision of program direction, coordination and supervision.

B. Development of basic water supply legislation and rules and regulations including standards, criteria and guidelines.

(1) review and revision of existing laws

(2) analyze and testify on proposed legislation

(3) develop and promulgate standards, criteria and guidelines. Periodically review and update standards.

C. Coordination of state, federal and local drinking water supply programs, including development and implementation of compatible regulations, standards, policies, and guidelines.

BOTTLED WATER

Oregon statutes or regulations do not specifically mention bottled water. The State has not established quality standards for bottled water.

Oregon's food laws, administered by the Oregon Department of Agriculture, define food as "articles used for food and drink". This has been interpreted to cover bottled water. Water bottlers are regulated by the State Department of Agriculture in the same manner as other food processing establishments. The Agriculture Department reports that there are four bottled water dispensers in Oregon; one in Oregon City, two in Grants Pass, and one in Portland.

The State food laws, which are similar to the Federal Food, Drug and Cosmetic Act, require food processors to be licensed by the Department of Agriculture and prohibit the sale or delivery of food that is adulterated. The Law also establishes general sanitation requirements for food processing and food establishments and authorizes the Department of Agriculture to inspect all food processing facilities and to take product samples for laboratory testing. The water supply serving a food processing plant must have the approval of the state or local health authorities.

The Department of Agriculture has an objective of inspecting each water bottling plant at least twice each year. This inspection does not usually cover the water supplies serving the processing plant. In other words, once a water supply for the plant has received the approval of the state or local health authority no further survey or inspection is made.

Bottled water is sampled frequently. Samples are analyzed by the Department of Agriculture to determine whether coliform bacteria are present. No analyses are made for chemical content, pesticides residues, or radioactivity.

The Federal Food and Drug Administration has published regulations for the quality control of bottled water shipped interstate. (Federal Register, Vol. 38 226, Part III, November 26, 1973).

Section 410 of the Safe Drinking Water Act provides that upon the promulgation of National Interim Primary Drinking Water Regulations, and after consultation with EPA, the Food and Drug Administration shall, within 180 days after the promulgation, either amend the regulations applicable to bottled water or publish in the Federal Register the reasons for not making such amendments. Since interim regulations were promulgated December 24, 1975 the decision on regulations for bottled water from the Federal stand point should be made by June 24, 1976.

Whatever action is taken, it is expected that the State water standards applicable to bottled water will be at least as stringent as Federal regulations and bottlers will be expected to comply with State regulations.

CURRENT STATUS OF PUBLIC WATER SUPPLY SYSTEMS IN OREGON

The ultimate measure of the adequacy of a state drinking water supply program is the availability of adequate water of good quality for public use and the condition of the state's water supply systems. A review of records of a representative sample of the state's water supplies provides valuable information concerning the state's program as well as developing a "base line" for future evaluations. The review also provides a basis for an objective evaluation of the state's program.

The purpose of sanitary surveys is to determine the condition of the water supplies. The surveys include inspections and evaluations of the sources of water supplies, treatment, storage, distribution, operation and maintenance. They also include a review of laboratory sample analyses for bacteriological, chemical, physical and radiological constituents.

Public health protection of drinking water supplies should insure that each component of the production, storage, and distribution processes functions with minimum risk of failure. Flawless treatment avails nothing if the distribution system permits entrance of contamination through faulty facilities such as uncovered distribution storage or cross-connections. Similarly, excellent operation of a conventional water treatment and distribution facility will not protect public health if impurities which are not removable by treatment are present in the raw water source.

SURVEY METHODS

On-site inspections of water supply facilities and operating procedures, and bacterial and chemical sampling at representative points in water supply systems were not carried out in this program evaluation. The approach in determining the status of water supply systems was to confine the evaluation to a careful examination of a representative sample of water supply system files recorded in the State Public Health Engineer's office.

This examination gave an excellent indication of the frequency of sanitary surveys and inspections as well as histories of bacterial and chemical quality. These examinations permitted a reasonably accurate and objective assessment of the State's surveillance and enforcement activities.

It is generally conceded that the Oregon surveillance, supervision and enforcement activities in relation to public drinking water supplies is inadequate and in dire need of improvement. It was therefore agreed that the program evaluation should be based in large measure on discussions with the agency staff and examination of files, thus making field trips and water supply evaluations unnecessary.

SELECTION CRITERIA

The state agency is concerned with all public water supply systems in the state. The evaluation sample therefore should include all types even if administered by different organizational units.

Community supplies included in the evaluation sample represent water supply practice in the state and reflect:

System size,

Types of sources and methods of treatment,

Geographical location within the state, and

Political sub-division or water supply surveillance districts.

Other public supplies could not be evaluated from an examination of the files in the state agency office. Evaluation of their supervision is treated under a separate section of this evaluation report.

REVIEW OF WATER SUPPLY RECORDS

Procedures followed by the Oregon Division of Health in surveillance and in maintaining records on community water supplies were reviewed. Water supply data pertaining to the physical features of community water supply systems are recorded on Oregon State form WSSP-3. This data form covers the following features of community water supplies:

Name of the supply location and ownership,

Number of services, percent metered, and consumption.

The features of the source of a community water supply are described under the following headings:

Name of source,

Description of the intake works,

Sanitary defects or health hazards at the source, and

Possible auxiliary sources.

Physical features described under transmission and distribution are as follows:

Transmission line,

Storage facilities,

Distribution system,

Cross-connection control, and

Sanitary defects and health hazards in the distribution system.

Details of water treatment provided can be described on the survey form. This description includes such things as, type of treatment, capacity, date of installation, etc. The form is dated and signed by the sanitary survey officer.

Analyses of bacterial and chemical records are made by the Division's engineering staff working with community supplies. This staff also makes analyses of operating records which are supplied monthly. At the time of the sanitary surveys or follow-up inspections, the engineers review maintenance, operation and treatment records. Reviews are also made of treatment plant and supporting laboratory equipment and procedures and periodically an evaluation is made of qualifications of laboratory personnel and procedures. The Division files contain very limited information on training, experience and capabilities of system operation personnel.

PUBLIC WATER SUPPLIES IN OREGON

COMMUNITY WATER SUPPLY SYSTEMS

Over 1.8 million people or 81 percent of Oregon's total population of 2,266,000 are served by 727 community water supply systems which have 15 or more service connections or regularly serve at least 25 individuals. More than half of these systems supply water to communities having populations of less than 500. The remaining 19 percent of Oregon's people are served by an unknown number of other smaller public water systems and individual water supplies.

As of January 1, 1975, the following sources of water were being utilized by the 727 community water supply systems in Oregon:

Source of Water	Number of Systems	Percent
Surface	336	46
Ground	356	49
Mixed Surface & Ground	35	5
Total	727	100

Over half of these community water supply systems serving over 1.6 million people chlorinate their drinking water.

TABLE /

SUMMARY - COMMUNITY WATER SUPPLIES (1) IN OREGON

(By Population)

SOURCES SUPPLIES	NUMBER OF SUPPLIES	POPULATION SERVED	PERCENT POP. SERVED	POP. SERVED FILTRATION DISINFECTION	PERCENT POP. SERVED FILT. - DISINFECT.	POP. SERVED DISINFECTION ONLY	PERCENT POP. SERVED DISINFECTION	POP. SERVED UNTREATED	PERCENT POP. SERVED UN-TREATED	TOTAL PERCENT
SURFACE(2)	336	1,427,100	78	585,400	41	817,670	57	24,040	2	100
GROUND	356	279,000	15	3,500	1	146,860	53	128,640	46	100
MIXED(3)	35	127,000	7	38,060	30	87,000	69	1,900	1	100
TOTALS	727	1,833,100	100	626,960	34	1,051,530	58	154,580	8	100

(1) Supplies with fifteen or more services or 25 or more individual users: does not include 34 systems with 14 or less services and 24 or less individuals serving a total of 520 individuals nor mobile home parks serving 25 or more individuals.

(2) Includes infiltration galleries and springs.

(3) Includes ground water and surface (2) water sources.

TABLE 2

SUMMARY - COMMUNITY WATER SUPPLIES (1) IN OREGON
(By Systems)

SOURCES OF SUPPLIES	NUMBER OF SUPPLIES	PERCENT OF SUPPLIES	SUPPLIES FILTERED-DISINFECTED	PERCENT FILTERED-DISINFECTED	SUPPLIES DISINFECTED ONLY	PERCENT DISINFECTED ONLY	SUPPLIES UNTREATED	PERCENT UNTREATED	TOTAL PERCENT
SURFACE(2)	336	46	73	22	212	63	51	15	100
GROUND	356	49	2	1	64	18	290	81	100
MIXED(3)	35	5	7	20	21	60	7	20	100
TOTALS	727	100	82	11	297	41	348	48	100

(1) Supplies with fifteen or more services or 25 or more individual users: does not include 34 systems with 14 or less services and 24 or less individuals serving a total of 520 individuals nor mobile home parks serving 25 or more individuals.

(2) Includes infiltration galleries and springs.

(3) Includes ground water and surface (2) water sources.

COMMUNITY WATER SUPPLY SYSTEM

SURVEILLANCE

Sanitary Surveys and Technical Assistance

Examination of the files of 55 of the 727 community water supply systems in Oregon reveal that sanitary surveys and/or inspections of these supplies occur about once every five years. Eight of the 55 supplies serve interstate carriers and each of these is surveyed or inspected annually.

Defects or deficiencies in the 55 systems (see Appendix A) occur as follows:

1. Twenty of the systems have deficiencies connected with the sources,
2. Twenty-six have deficiencies or defects connected with storage,
3. Seven have deficiencies in distribution, and,
4. Thirty-one have deficiencies in treatment.

Of the 55 supplies in the sample, 36 have operators that have been certified by the State as qualified.

Twelve of the 55 supplies add fluorides as a public health measure, for the prevention of tooth decay.

Thirty-seven of the 55 supplies have bacteriological records which indicated conformance with State standards.

In certain areas of the State there are problems with the chemical quality of water available for community water supplies. The State and communities, however, are aware of these problems and have been able to modify their sources or provide treatment which provides water of satisfactory chemical quality. (See Appendix D)

Of the 55 water supplies in the sample, 32 use surface water sources, eleven use mixed ground and surface water, and 12 use ground water exclusively. The 43 systems using surface and mixed water supply sources submit samples for chemical analysis an average of once every six years. The 12 systems using ground water sources exclusively submit samples for chemical analysis once every ten years. The eight interstate carrier water supplies, only one of which has a ground water source, submitted samples for chemical analysis an average of once every four years.

Chemical Surveillance

Chemical analyses of samples from community water supply systems in Oregon are made by the State Department of Environmental Quality. DEQ Laboratories have the capability of making analysis for the following parameters:

Color
Turbidity
Total Solids
Volatile Solids
Carbon Dioxide
pH
Total Alkalinity (as Calcium Carbonate)
Hardness (as Calcium Carbonate)
Calcium
Magnesium
Total Iron
Manganese
Arsenic
Conductance

Chlorides
Sodium
Potassium
Fluoride
Phosphate (Soluble Ortho)
Sulphates
Silicon
Aluminum
Ammonia
Nitrate
Nitrite

Pesticides

Present reimbursement for chemical analyses done by ODEQ is about $21,000 per year or one man-year plus equipment. There are "plans" to increase this three fold in 1976.

The State Department of Agriculture does pesticides analyses.

The Health Division does radionuclide determinations.

As a general rule chemical analyses of drinking water samples do not include determination of metals. Arsenic determinations are made frequently. With the exception of analyses of samples from Interstate Carrier Water Supplies, other heavy metals are not run routinely.

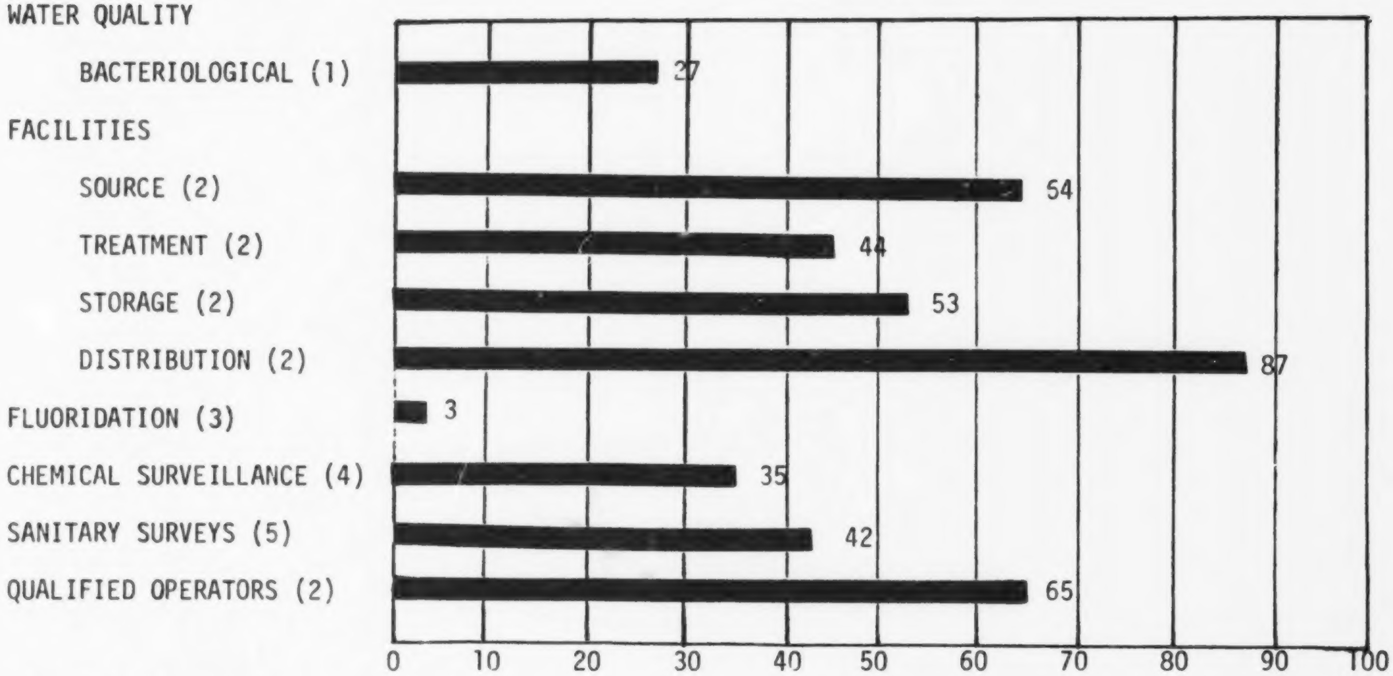
Bacteriological Surveillance

Although 67 percent of the 55 systems in the sample had satisfactory bacteriological records during 1974, only 27 percent of the 727 community water supply systems in the state had satisfactory bacteriological records for that year. During the past five years, compliance by the 727 systems with State bacteriological standards were: 1970, 56 percent; 1971, 53 percent; 1972, 40 percent; 1973, 26 percent; and 1974, 27 percent. During this five-year period the number of community water supplies has increased from 496 to 727, or at an average rate of about 45 systems per year. The population served by these community systems had increased from about 1.5 million people in 1970 to over 1.8 million in 1974. This increase is at an average rate of over 60,000 per year. While community water supply systems have been increasing in number and in populations served, the State's water supply agency resources in dollars and manpower have been decreasing.

FIGURE I

WATER QUALITY AND SYSTEMS COMPLIANCE

PERCENT OF SYSTEMS IN COMPLIANCE



(1) Data from 1974.
(2) Data from a 55 system sample (out of 727 total systems not including mobile home parks).
(3) Data from 727 community water supply systems.
(4) Chemical sample within last 3 years.
(5) Sanitary survey or inspection within last year.

STATE WATER SUPPLY PROGRAM MANPOWER NEEDS

It is estimated that at the present time personnel providing surveillance for public water supplies in Oregon total 26. This personnel is distributed as follows: Eleven are working on sanitary surveys and rendering technical assistance. An equivalent of 7 are working on chemical surveillance, and 4 on bacteriological surveillance. It is estimated that four are on the administrative staff. This makes a total of 26 with an annual budget estimated at $0.5 million.

Manpower needs are estimated as follows: 24 for sanitary surveys and technical assistance, 27 for chemical surveillance, 6 for bacteriological surveillance, 2 for training and 21 for administration. This makes a total manpower need of 80 professional, sub-professional, and clerical personnel. At an average of $20,000 per person per year, this amounts to an estimated budget of $1.6 million.

TABLE 3

COMMUNITY WATER SYSTEMS (1) IN OREGON IN COMPLIANCE WITH BACTERIOLOGICAL STANDARDS

YEAR	1970	1971	1972	1973	1974
SYSTEMS	280 56%	269 53%	225 40%	181 26%	195 27%
POPULATION	1,359,774 90%	1,396,045 88%	1,359,315 85%	1,377,346 84%	1,502,302 82%

(1) Mobile home parks are not included.

It is estimated that State Division of Health personnel presently working on these other public water supplies are six (6) in Sanitary Surveys and Technical Assistance, two (2) in Chemical Surveillance, and two (2) in Bacteriological Surveillance. Administrators working on public water supplies, both community and other, number 4. This makes a total of 10 incumbent personnel plus administrators.

It has been estimated that a staff of approximately 42 qualified personnel will be required for proper surveillance of the state's other public water supplies at an annual budget of approximately $840,000. Approximately eleven would be required for sanitary surveys, inspections, and technical assistance. Approximately seventeen would be required for chemical surveillance and four for bacteriological surveillance. The proportion of personnel required for chemical surveillance is high because so many of the supplies have surface water sources. This need can be reduced if analyses are done by purveyors and analyses of samples from "other" water supplies are reduced to fewer parameters.

In many parts of the region the percentage of surface water supply sources runs on the order of twenty percent while in Oregon it is estimated at thirty percent for other public water supplies (forty-six percent for community supplies). This high percentage of surface water supply sources results in higher chemical surveillance costs.

TABLE 4

ESTIMATED MANPOWER NEEDS FOR SUPERVISION PROGRAM AND PRIMARY ENFORCEMENT RESPONSIBILITY FOR COMMUNITY AND OTHER PUBLIC WATER SUPPLY SYSTEMS IN OREGON

Program Activities	Man-Days Per Year		
	Community Water Supplies (727)	Other Public Water Supplies (2431)	Both Community & Public (3158)
Surveillance			
Sanitary Surveys, Tech. Asst.	2910	2430	5340
Chemical Surveillance	2246	3646	5891
Bacteriological Surveillance	487	802	1289
Laboratory Certification	29	--	29
Sub-total	5672	6878	12550
Training	553	--	553
Sub-total	6225	6878	13103
Program Administration	2179	2407	4586
Total Man-Days	8404	9285	17689
Man-Years	38	42	80
Dollars/Yr. @ 20,000	760,000	840,000	1,600,000

TABLE 5

STAFFING FOR OREGON'S PUBLIC WATER SYSTEM

SUPERVISION PROGRAM

Program Activities	Community Water Supplies (727)		Other Public Water Supplies (2431)		Both Community & Other (3158)	
	present staff	staff needed	present staff	staff needed	present staff	staff needed
Surveillance						
Sanitary Surveys, Tech. Assistance	5	13	6	11	11	24
Chemical Surveillance	5	10	2	17	7	27
Bacteriological Surveillance	2	2	2	4	4	6
Training		3				3
Program Administration	2	10	2	10	4	20
Total Man-Years	14	38	12	42	26	80
Dollars/Yr. @ 20,000		760,000		840,000		1,600,000

CERTIFICATION OF WATER SYSTEM OPERATORS

Oregon has had a voluntary waterworks operator's certification program for the past 20 years. (See "Combined Report for the 18th and 19th Year of the Oregon Waterworks Operators' Certification Program"). During this time, the State health agency has fully supported the concept that persons who are responsible for providing the public with safe drinking water must be qualified to do so. Oregon statutes and regulations recognize the importance of adequate qualification for system operators. A bill for mandatory certification has been introduced in the Oregon Legislature at each Session since 1961. Unfortunately none has been enacted and certification cannot be made mandatory by regulation.

Attention has already been called to the fact that the number of systems and the population served by new systems have been increasing over the past years. As a result of the State's tabulation of bacteriological sampling records for 1974, it can be seen that water systems operated by certified personnel have achieved a far superior bacteriological sampling record in Oregon than those operated by non-qualified personnel.

It is also revealed that a much larger portion of the total population is served by systems with qualified operators than is the case with systems without such operators. There are only seven water supply systems in Oregon serving 5,000 persons or more which are not operated by certified personnel. On the other hand, only 26 of some 650 water systems serving less than 5000 persons employ certified operators at the present time.

Under the existing voluntary program, examinations to determine qualifications are held twice a year.

Mandatory certification of water system operators will call for increased training. Oregon State University at Corvallis offers an annual three-day short school for water works operators. Attendance at this school is about 200 per year. Some of these are new operators and others are experienced personnel studying for promotion or a higher grade of qualification certification.

Three Oregon Community Colleges, (Clackamus, Linn-Benton, and Umpqua) offer 12 once per week evening courses (a total of 12 weeks) for operators. They turn out a total of 30 trained operators per year.

In-service evening courses are presented by Water Department officials at larger water treatment facilities. These are usually one night per week, three hours per night and cover a total of 12 weeks. Such in-service training is offered at Bend and The Dalles. This type of training is given to about 20 per year.

A mobile laboratory is operated by Linn-Benton Community College. Eight hour training sessions are offered by this Community College through the use of their mobile laboratory on a schedule of once per month at Coos Bay, Tillamook, and Lincoln City. The training mobile laboratory unit operates twice per month at Medford and Redmond.

One-subject seminars and workshops are arranged jointly by the Health Division and AWWA. Such one-subject sessions have been held for a:

Five-day course for backflow device testing, Two-day course on chlorination, and

Two-day course on fluoridation.

OTHER PUBLIC WATER SUPPLIES IN OREGON

The Oregon Division of Health's Public Water Supply Master File indicates that there are about 2400 public supplies in the State serving mobile home parks and such facilities as state parks, schools, outlying restaurants and other establishments. Of these, approximately 700 are supplies with surface water sources. Springs and infiltration systems are classed as surface water sources.

The master file records systems with fifteen or more services and twenty-five or more individuals at establishments indicated above. Besides the names of the establishments and an indication of whether or not the source is ground or surface water, the master file record cards contain very little additional information.

The agency maintains a file of records of bacteriological analyses made on samples submitted by the establishments. These file records indicate in addition to the name of the establishment, the type of source, whether or not treatment is provided, and results of the bacteriological analyses, that is, whether the sample conforms with requirements of state standards or does not.

At least part of the information on the bacterial analysis card is introduced into the Division's automatic data processing system. The printout from this system identifies the facility and indicates the facility type, as well as the results of the bacteriological analysis and whether or not the results are in conformance with requirements of the state standards. The printout does not indicate whether or not the water supply system has treatment, whether it is from a surface or ground water source, or whether the system is free of sanitary defects.

Data cards which are later punched and used in connection with the automatic data processing system are filed by counties and dates on which bacteriological samples were taken.

It is difficult if not impossible to make a statistical analysis of these public water supply records from which conclusions can be drawn as to the physical features, public health hazards, structural defects, or compliance of these supplies with state standards. There is also an absence of information on chemical quality of these water supplies.

Recognizing the need for data of this nature, a revision of the automatic data processing system is underway. A deck of header cards is being prepared which will serve as an inventory of other public water supply systems and will indicate the name and type of each facility, the EPA inventory number, source type, type of treatment used, bacteriological sampling frequency, the dates of the most recent chemical analysis and sanitary survey and the latitude and longitude of the source. These header cards will also be used to print all of this information as the initial system entry on the quarterly and annual bacteriological, chemical and sanitary survey readouts. The inclusion of the EPA inventory number on the header card and the inclusion of the state inventory number on the EPA inventory card will allow automatic data flow between the state and Federal agencies.

STATE DRINKING WATER SUPPLY SUPERVISION PROGRAM

The Office of Protective Health Services in the Oregon State Health Division, Department of Human Resources, is responsible for assuring that all community and other public water supply systems are constructed and operated in a manner that will provide safe, adequate and potable drinking water.

Within the Office of Protective Health Services, Public Health Engineering is responsible for community water supply systems and Community Sanitation is responsible for all other public water supply systems, Individual water supply systems and small systems serving less than four single family residences are not subject to the rules and regulations issued by the Oregon State Health Division.

The Office of Protective Health Services is served by two advisory committees in matters pertaining to public water supply systems. These are: The Waterworks Operators' Certification Committee and the Sanitary Engineering Advisory Committee.

Public Health Engineering

To assure the safety of community drinking water supply systems in Oregon, the Public Health Engineering office which has seven (7) Professional Engineers, and one (1) Engineer in Training, reviews and approves the plans for constructing new public water supply systems and for improving existing systems; makes periodic sanitary surveys and inspections of systems; monitors the bacteriological and chemical quality of the water supplies; promotes cross-connection control; conducts training courses for waterworks operators; certifies backflow device testers; and provides technical assistance to water system operators.

Sanitary surveys and inspections are carried out by five (5) engineers, mainly for the purpose of identifying and recommending corrections of sanitary defects and health hazards including operational deficiencies.

Community Sanitation

Administration of State office responsibilities in connection with other public water supply systems rests with the Community Sanitation office. There is a severe shortage of qualified personnel within the office to maintain adequate supervision or surveillance over the 2,400 other public water supply systems in the State. Consequently the only information in the State office about these supplies is a file of system names and locations, sources of supplies, and whether or not treatment is provided. There are few records of sanitary surveys or inspections.

EVALUATION CRITERIA

Community Water Supply Systems

Bacteriological surveillance is considered satisfactory in regard to numbers of samples collected if the number of bacteriological samples examined per month during the preceding 12-month period meets the minimum number specified by the Drinking Water Regulations. In order to meet the bacteriological quality standard, the number of positive samples is also a limiting factor.

Chemical surveillance is considered satisfactory if chemical constituents (as distinguished from normal in-plant operational checks) were determined according to the following schedule and there was no record of significant problems:

Surface water sources - at least once per year
Ground water sources - at least once every three years

Engineering surveillance is considered satisfactory if a sanitary survey by the state agency has been made at any time during the 12-month period preceding the survey. More frequent inspections, however, are considered necessary for optimum surveillance.

Other Public Water Supplies

It would be desirable for the state agency to provide direct surveillance for small public water supplies. As a practical matter, however, due to limited personnel resources, the relatively large number of the supplies and the wide geographical distribution of systems it may be necessary to delegate much of this responsibility to local authorities. It is, however, the responsibility of the state agency to assure adequate regulation of small public supplies by the establishment of rules and regulations and provision of adequate and close liaison with local and county health departments to insure proper reporting and maintenance of data. The state agency should make technical and laboratory assistance available upon request. These services are particularly important since it will make available engineering skills related to public water supply facilities.

Bacteriological, chemical and engineering surveillance requirements are similar to those for community water supplies.

Data Collection

The important consideration and the basic objective of a water supply system survey is to collect sufficient information to determine conclusively the capability of a water system to continuously provide water that meets the drinking water regulations and to determine that the sanitary features of the system include no sanitary defects or permit no public health hazards. If deficiencies are found during the survey they should be identified and corrected as soon as possible. In all evaluations it must be remembered that there are three parts of the drinking water regulations that must be met: the physical features of the system, the bacteriological quality, and the chemical quality. Evaluation of physical features includes consideration of operation and maintenance as well as facilities, quality control and reliability.

CONCLUSIONS AND RECOMMENDATIONS

The Public Water Supply Program of the Oregon Department of Human Resources is not adequately staffed and budgeted to provide supervision, surveillance and technical assistance nor to assume primary enforcement responsibility required for water supply systems serving the public. Following are minimum requirements necessary to permit assumption of primary responsibility for supervision and enforcement of water supply programs. (Also see Regulations on (1) Grants for State Public Water System Supervision and (2) National Interim Primary Drinking Water Regulations Implementation).

1. Legislation. Oregon has relatively inadequate statutory authority over drinking water supplies. Certain amendments will be necessary before the State can qualify to assume primary responsibility for enforcement under section 1413 of the Safe Drinking Water Act.

Jurisdiction over drinking water in Oregon is primarily vested in the Health Division of the Department of Human Resources. The Division has express jurisdiction only over domestic water supply sources, and community and public water supply systems (see State definition page 10) under ORS 448.215. The Division does not have sufficient jurisdiction over municipal or public utility water supply systems under ORS 448.210, and 448.245. This is a serious deficiency since the majority of the population is served by either municipal or public utility water supply systems. ORS 448.210, 448.215, and 448.245 will have to be amended to confer upon the Health Division jurisdiction over municipal and public utility water supply systems before Oregon can qualify to assume primary responsibility for enforcement of the Safe Drinking Water Act.

Section 16, Chapter 254, Oregon laws of 1975 requires review and approval of plans for domestic water supply sources. The Division, however, lacks authority under ORS 448.225 to require municipal and public utility water supply systems to submit tentative plans for the construction of water supply facilities. ORS 448.225 must be amended to provide for the review and approval of the design and construction of municipal, public utility, community and public water supply systems in order to assure that such facilities are capable of compliance with applicable drinking water regulations.

The Health Division has authority to inspect water supply systems to determine whether they comply with applicable regulations (ORS 448.240). In addition, the Health Division may require the operator of a water supply system to collect and submit water samples for bacteriological analysis at a laboratory approved by the Division (ORS 448.230). The Division thus has inherent authority to certify laboratories with respect to bacteriological analysis. It will be necessary for the State to amend ORS 448.230 to give the Health Division authority to require the collection and submission of samples for chemical and physical analysis and certification of laboratories which perform these analyses.

Although ORS 448.220(1) makes it unlawful for any person or governmental unit to violate the rules of the Division, ORS 448.220(2) exempts certain water supply systems from compliance with rules adopted under ORS 448.245. The provision creates a serious deficiency in Oregon's legislation since it will exempt certain community and public water supply systems from compliance with the primary drinking water regulations adopted pursuant to ORS 448.245(1). A legislative amendment eliminating this exemption or modifying it to require all public water supply systems to comply with operation, maintenance and water quality regulations will be necessary before Oregon can assume primary enforcement of the Safe Drinking Water Act.

It will also be necessary to amend 448.245 to authorize the Division to set forth requirements for design, construction, maintenance and operation of all public water supply systems.

EPA strongly urges Oregon to strengthen the penalty provisions of its legislation. The present legislation provides for civil penalties not to exceed $500 per day for violation of any rule or regulation adopted by the Division (ORS 448.280). Such a limited penalty provision may not be adequate to assure compliance with Interim Primary Drinking Water Regulations.

It appears that civil penalties of 25 to 500 dollars per day may be assessed against individuals, corporations, associations, firms, partnerships or stock companies and not against publicly owned water utilities.

Violation of ORS 448.205, 448.220, 448.225, 448.230, 448.235, or 448.325 is a Class A misdemeanor.

Violation of ORS 448.265 is a Class B misdemeanor.

It is not clear from Section 448.990 whether the violations which are misdemeanors would result in imposition of one time penalties or whether penalties would be assessed daily until the violation is corrected.

Another possible deficiency in Oregon's legislation exists with respect to the Division's authority to adopt and implement a plan for provision of safe drinking water during emergency conditions. The Division does not have express authority to adopt such a plan, although ORS 448.270 does authorize the Division to adopt rules which it considers necessary. The Division may, therefore, have inherent authority to adopt and implement a plan as required by the Safe Drinking Water Act. It must be noted, however, that the definition of the term "emergency" in ORS 448.205(8) is less extensive than that contemplated in the Safe Drinking Water Act. In order to assume primary enforcement responsibility under the Safe Drinking Water Act, Oregon must have authority to adopt and implement a plan for the provision of safe drinking water whenever an emergency threatens to cause a public health hazard. A legal opinion by the State Attorney General indicating that the Division has such authority will be sufficient. An unusual characteristic of the amended water supply legislation is the requirement that the state agency assume some responsibilities which normally rest with the water supply owner or operator. An example of such an instance might be a requirement that the State determine and recommend a solution to a water supply problem for which the purveyor has not proposed an answer satisfactory to the agency.

With the exception of amendments covering the deficiences discussed above, Oregon's present legislative authority is adequate to assume primary responsibility for enforcement of the Safe Drinking Water Act.

The definition of "Public Health Hazard" as it appears in ORS 448.205(12) is too restrictive and does not permit flexibility and development of regulations covering such matters as faulty water system structures, practices, operation and maintenance. Consideration should be given to amending this definition to include these important aspects of health hazards.

Recommendations. Consideration should be given to enactment of legislation which will:

A. Give the Oregon Health Division jurisdiction over municipal and public utility water systems,

B. Amend Section 448.210 (purpose) to provide that in the further interest of public health, water purveyors shall be responsible for taking all reasonable precautions to protect the purity and healthfulness of water delivered to their customers for drinking and household purposes. The Health Division shall be responsible for undertaking sanitary surveys, follow-up investigations and inspections; for preparing reports, giving technical guidance, assistance and recommendations; for issuing directives requiring the elimination of sanitary defects and health hazards; for implementing enforcement action; for monitoring the purveyor's bacteriological and chemical sampling program and maintaining surveillance of water quality; for collecting and examining check samples and interpreting the results of laboratory examinations; for reviewing plans for new facilities and changes in existing facilities; for promoting programs to abate cross-connections; for developing rules, standards and guidelines; for compiling data on water system operations and maintaining a current inventory of water systems; for training and certifying operators; for participating in health education of the public; for cooperating with other groups having water-supply-related functions; and for performing other activities as may be required to assure that the water purveyor properly exercises his responsibilities.

C. Amend ORS 448.225 to provide for the review of the design and construction of municipal and public utility water supply systems in order to assure that such facilities are capable of compliance with applicable drinking water regulations.

D. Amend 448.230 to give the Health Division authority to require the collection and submission of samples for chemical and physical analyses and certification of chemical laboratories.

E. Amend ORS 448.220(2) to remove the exemption of certain water supply systems from compliance with rules adopted under ORS 448.245. This deficiency in Oregon legislation would permit exemption of certain community and public water supply systems from compliance with the primary drinking water standards adopted pursuant to ORS 448.245(1).

F. Provide for civil penalties adequate to assure compliance with National Interim Primary Drinking Water Regulations. The penalty provisions may need to be revised so as to be adequate for enforcement of the provisions of the Safe Drinking Water Act which authorizes civil penalties up to $5,000 per day. (All water purveyors in Oregon are not "persons" as defined in Sec. 448.205(16)).

G. Provide authority to adopt and implement a plan for provision of safe drinking water during emergency conditions. The definition of the term "emergency" ORS 448.205(a) is less extensive than that contemplated in the Safe Drinking Water Act. A legal opinion by the State Attorney General indicating that the Division has such authority will be sufficient.

2. Regulations. Oregon state statutes pertaining to drinking water supplies serving the public, specifically Chapter 448 ORS, underwent extensive amendment during the 1975 session of the Oregon State Legislature. The new statute requires promulgation of new regulations relating to production and delivery of water for domestic use. The State is presently in the process of adopting new regulations. As noted previously, the new state statutes are considered inadequate and, therefore, portions of the new regulations may also be inadequate.

Recommendation. Administrators in the Oregon Health Division are commended for initiating the development of a new set of regulations. In this process careful attention should be given to development of regulations which will be adequate and consistent with the Federal statute and regulations under the Safe Drinking Water Act of 1974, Public Law 93-523. However, if the State Department of Human Resources is to assume primary supervision and enforcement for Public Water Supplies within the State, the existing statutes must be strengthened to give the Health Division authority consistent with the Safe Drinking Water Act. This in turn will require corresponding changes in the regulations.

3. Engineering surveillance. Surveillance is considered satisfactory if an inspection or sanitary survey of a public water supply system has been made annually. With the limited staff of 11 professional engineers and sanitarians it has been impossible for the agency to provide necessary technical assistance and surveillance in this regard. Except for interstate carrier water supplies, these surveys and/or inspections have been made about once every four years.

Recommendation. A staff of 24 professional engineers is required in the agency headquarters office and in districts or regions to provide annual sanitary survey and inspection services and technical assistance needed to bring public water supplies up to standards.

4. Chemical surveillance. A significant amount of work has been done on chemical surveillance of community water supplies. This surveillance at the present time, however, is not adequate. It is estimated that one complete chemical analysis per year should be made for surface water supplies and one chemical analysis every three years for ground water supplies. With a large portion of surface (336) and mixed surface and ground (35) water supplies out of a total of 727 community supplies, chemical surveillance is a major responsibility. It is estimated that an equivalent of 10 man

years of effort should be expended currently on this aspect of the program.

Very little surveillance has been carried out in the State on local water supply programs for other public water supplies. There are presently 2430 other public systems in Oregon. It is estimated that an additional 17 man years of effort may be necessary unless purveyors assume much of this responsibility.

Recommendation. It is recommended that water supply purveyors be informed of their responsibility in seeing that water quality standards are met and that a major part of the burden for chemical surveillance should be borne by the water suppliers and not entirely by the state agency. It is further recommended that the State budget be increased for the State to carry out quality control chemical surveillance.

The chemical surveillance program should be expanded and modified to:

(1) Insure that at least one complete chemical analysis on each surface water supply annually and on each groundwater supply triannually is performed by the purveyor.

(2) Provide facilities for collection and analyses of check samples.

(3) The practice of the State performing chemical analyses for operational control should be discontinued since this is the responsibility of the water supply operator.

5. Bacteriological surveillance. The state agency has given considerable attention over the years to bacteriological quality of

community water supplies. However, the degree of conformance with bacteriological quality standards established by the state has been decreasing over the past five years. For example: In 1970, 56 percent of the community water supplies met bacteriological water quality standards. In 1971, their percentage was 53 percent; in 1972 40 percent; in 1973 26 percent; and in 1974 27 percent. During the past five years the number of community water supplies has increased from 496 to 727, or at an average rate of about 45 systems per year. The population served by these communities systems had increased from about 1.5 million people in 1970 to over 1.8 million in 1974. This increase is at an average rate of over 60,000 per year. While community water supply systems have been increasing in number and in population served, the state's water supply agency's resources in dollars and manpower have been decreasing. Most of the new water supply systems in the state during the past five years have been small systems and since most of them are not operated by qualified (certified) operators, they may account to a significant degree for the decrease in conformance with bacteriological quality standards as noted above. Surveillance of bacteriological quality on the part of water supply purveyors is, with a few significant exceptions, inadequate. State bacteriological laboratory services are adequate in capacity for state quality control of community water supplies in Oregon. State and other laboratories available for bacteriological surveillance are not strategically located to serve all areas of the state. For example, with the exception of one in Bend, there are no laboratories in eastern Oregon. In this connection it may be possible to encourage existing labs in eastern Oregon to become certified for bacteriological services. Medical (clinical) laboratories in eastern Oregon may also be available for this purpose.

Recommendation. It is recommended that the water purveyors arrange for bacteriological surveillance of their water supplies in order that they can be certain of compliance with bacteriological standards. Certified laboratories should be strategically located (See Appendix E showing location of laboratories in Oregon) to serve eastern Oregon.

The State's bacteriological surveillance program should be redirected to:

(1) Encourage and if possible require water supply purveyors to provide their own bacteriological monitoring.

(2) A fee should be charged to cover the cost of routine bacteriological analyses. This will require a statute change.

(3) The water supply program should use currently available bacteriological surveillance facilities to assure validity and run quality checks on routine sampling by purveyors.

6. Laboratory Certification. The state bacteriological laboratory is certified by the Environmental Protection Agency for MPN determinations. The laboratory is recertified every 3 years. In turn the state certifying officer who is certified by EPA, arranges for certification of County Health Department and private laboratories, water department or water company laboratories and others that furnish

laboratory services for bacteriological surveillance of community water supplies. Such certifications are generally scheduled for once every 3 years. There have been occasions, however, where longer periods have elapsed. The state certifying officer currently will not certify a water department laboratory unless bacteriological laboratory work is done by or under supervision of a graduate bacteriologist. This is not considered necessary. Training and experience for this special type of laboratory service should be adequate to meet qualifications for certification.

EPA will develop as soon as possible, in cooperation with the States and other interested parties, criteria and procedures for chemical laboratory certification. Until EPA establishes a national quality assurances program for laboratory certification the state will maintain an interim program of accepting analytical measurements from laboratories operated by the state and those certified by the state.

Recommendation. It is recommended that the state bacteriological laboratory and certifying officer be certified for the membrane filter technique. It is also recommended that arrangements be made to train laboratory workers in water department laboratories to qualify them for bacteriological surveillance. It will also be necessary to establish a program for certification of chemical laboratories.

7. Training. Several professionals on the State and District Staffs are in need of specialized training for most effective work in drinking water supply programs. There is also a need for budgetary

provision by the State agency for training water system operators. The State should have the authority to see that operators receive adequate training to qualify them for their positions in operation and maintenance of water supplies.

Recommendation. It is recommended that arrangements for training both professional staff and water treatment plant and system operators be upgraded and that the training program be given increased financial support. This budget item should be in the order of $60,000 per year.

8. Program Administration. Although the state's public water supply program is currently staffed by well qualified professional engineers (P.E.'s) and sanitarians, the number of professional staff is seriously inadequate. This shortage of a professional staff exists at both the state and local levels.

There is practically no provision in the state or local water supply programs for sanitary surveys or technical assistance for non-community public water supplies. It is estimated that there are about 2,400 of these supplies in the state of which about 700 are surface water supplies and the remaining 1,700 are groundwater supplies. It is also estimated that less than half of the surface water supplies (other than community supplies) received even disinfection treatment.

Recommendation. It is recommended that one state staff organizational unit be responsible for all public water supply activities, including community and non-community supplies. This unit should be headed by a qualified sanitary or public health engineer with experience in administrative and technical aspects of water supply functions. He should be responsible for program administration, planning and operation for all water supplies serving the public. Water supply policy matters should be handled out of this office. Professional engineers (P.E.'s), engineers in training (E.I.T.'s), sanitarians, scientists, biologists, and chemists are needed to develop a staff of complimentary disciplines essential to successful program implementation.

9. Manpower Needs. Approximately a three-fold increase in staff and working budget will be ultimately required for the state to assume supervision of all public water supplies and an adequate enforcement program for standards and regulations pertaining to them.

It is estimated that at the present time a total of 26 employees are working full time on the state and local water supply programs (14 on community water supplies and 12 on other water supplies).

When surveillance and enforcement programs are fully staffed it is estimated that a total of 80 professional and support staff will be needed (38 for community water supplies and 42 for other public supplies). This will call for a total budget estimated at $1.6 million ($.76 million for community supplies and $.84 million for other supplies).

Following is a breakdown of manpower requirements for the 6 functions for which the state water supply agency is responsible.

A. Sanitary surveys and technical assistants. There are currently 11 employees in this function (5 for community water supplies and 6 for others). A total of 24 will ultimately be needed. (13 for community water supplies and 11 for other water supplies.)

B. Chemical surveillance. An equivalent of 7 personnel presently provide this service. (5 for community supplies and 2 for others.) It is estimated that an equivalent of 27 will be required (10 for community and 17 for others) unless purveyors arrange for chemical analyses and the state is responsible only for quality control.

C. Bacteriological surveillance. It is estimated that 4 full time employees presently provide this service (2 for community and 2 for other water supplies). Ultimately a staff of 6 will be required for bacteriological surveillance for quality control only (2 for community and 4 for other water supplies).

D. Training. Minimal effort is expended at the present time on training. It is estimated that for adequate training effort for state and local water supply personnel and/or water system operators a staff of 3 will be required for this function. This will require a budget estimated at $60,000/year.

E. Program administration. Four full time employees are currently administering the state drinking water supply program. (2 for community and 2 for others.) If state and local water supply staffs are to receive adequate supervision, and if public water system supervision programs are to be adequately handled, administrative personnel must be used not only at the state level but also in local and district units. Adequate staffing for this function is estimated at 20 supervisory or administrative personnel. (10 supervisor for community supplies and 10 supervisors for other water supply systems).

The state's public water supply supervision program should be upgraded to be commensurate with the importance of the program to the health and well being of Oregon residents and visitors.

11. Fluoridation. The State agency should encourage the fluoridation of fluoride deficient water supplies serving the public. Concurrently with installation of this important public health measure the State should require that such systems and treatment facilities be supervised by qualified operators.

12. Agency policies and guidelines should be established by formal action and distributed in document form to public water supply purveyors and agency staff as well as to local agencies with relevant responsibilities.

13. Supervision of all water supplies serving the public should be increased to provide at least the minimum supervision levels established in the State's drinking water regulations and in EPA's Manual for Evaluation of Public Water Supplies. This supervision should include:

A. Development and continuous updating of a comprehensive inventory of water supplies serving the public,

B. Annual surveys or inspections of each system with followup technical assistance as required,

C. Assurance of adequate bacteriological sampling with required quality control checks for all supplies,

D. A routine complete chemical sampling program for each supply,

E. A program for local cross-connection control and prevention of backflow conditions,

F. Increase supervision of fluoridated supplies to assure adequacy of these operations,

G. Establish a program to assure that bottled water quality and water bottling practices comply with established standards for food packaging as well as water quality, and

H. Training and certification of operators.

14. Automatic data processing should be more fully utilized for storage and retrieval of such information as from bacteriological and chemical quality, engineering reports, systems operation, and inventory data as well as management information.

15. Memoranda of agreement should be developed with local health departments and agencies for supervision of and technical assistance to specific categories of public water supplies including recreational water supply systems and others serving the public.

16. Bottled water. The Oregon Division of Health and the State Department of Agriculture should review arrangements under which controls over bottled water are presently exercised.

Uniform regulations should be developed and applied to all water bottling plants and products. The regulations should include water quality standards and quality control procedures.

Water bottling plants should be subject to regular surveillance to assure compliance with regulations. Sanitation of the plant water supply source, the plant itself, facilities, and bottle containers should be maintained. Effective disinfection practices should be carried out.

The quality of all bottled water should meet chemical and bacteriological regulations established by EPA and/or the Federal Food and Drug Administration, whichever is applicable.

APPENDIX A

COMMUNITY WATER SUPPLY SURVEILLANCE

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COMMUNITY WATER SUPPLY SURVEILLANCE

SYSTEM NUMBER	NAME	COUNTY	SOURCE OF SUPPLY	POPULATION SERVED	FLOURI-DATION	INTER-STATE CARRIER W. S.	OPERATOR CERTIFIED QUALIFIED	(*)
01	Baker	Baker	Mixed	9,500			YES	
02	Richland	Baker	Surface	160				
03	Corvallis	Benton	Surface	40,000	YES		YES	(11)
04	Monroe City	Benton	Surface	450				
05	Canby	Clackamas	Surface	4,300			YES	(2)
06	Gladstone	Clackamas	Surface	7,000			YES	(2)
07	Lake Oswego	Clackamas	Surface	18,170			YES	(7)
08	Mulino	Clackamas	Mixed	450				
09	Oregon City	Clackamas	Surface	10,000			YES	(4)
10	Astoria	Clatsop	Surface	12,000	YES	YES	YES	(7)
11	Elderberry-Nehalem	Clatsop	Ground	150				
12	Seaside	Clatsop	Surface	6,000				
13	Columbia City	Columbia	Ground	600				
14	St. Helens	Columbia	Surface	6,000				
15	Coos Bay	Coos	Mixed	30,000	YES	YES	YES	(9)
16	Coquille	Coos	Surface	5,000	YES		YES	(1)
17	Prineville	Crook	Ground	4,800				
18	Gold Beach	Curry	Surface	1,200	YES			
19	Bend	Deschutes	Mixed	17,100		YES	YES	(8)
20	Redmond	Deschutes	Surface	5,000			YES	(3)
21	Sun River Utilities Co.	Deschutes	Ground	300			YES	(1)
22	Roseburg	Douglas	Surface	19,000			YES	(5)
23	Condon	Gilliam	Mixed	1,000				
24	Burns	Harney	Ground	4,500				
25	Hood River	Hood River	Mixed	5,500			YES	(3)
26	Ashland	Jackson	Surface	14,000			YES	(8)
27	Medford	Jackson	Surface	40,000		YES	YES	(4)
28	Deschutes Valley Water District	Jefferson	Surface	7,000			YES	(2)

(*) Number of Qualified Operators

COMMUNITY WATER SUPPLY SURVEILLANCE

SYSTEM NUMBER	NAME	COUNTY	SOURCE OF SUPPLY	POPULATION SERVED	FLOURI-DATION	INTER-STATE CARRIER W. S.	OPERATOR CERTIFIED QUALIFIED	(*)
29	Grants Pass	Josephine	Surface	13,200			YES	(5)
30	Klamath Falls	Klamath	Ground	35,000		YES	YES	(3)
31	Lakeview City	Lake	Mixed	4,000				
32	Cottage Grove	Lane	Surface	6,500				
33	Eugene	Lane	Surface	90,000		YES	YES	(9)
34	Springfield	Lane	Ground	16,000				
35	Newport	Lincoln	Surface	6,000	YES	YES	YES	(2)
36	Toledo	Lincoln	Surface	3,600				
37	Albany	Linn	Surface	24,000	YES		YES	(2)
38	Lebanon	Linn	Surface	8,500			YES	(1)
39	Ontario	Malheur	Ground	7,500			YES	(1)
40	Salem	Marion	Surface	90,000	YES		YES	(2)
41	Woodburn	Marion	Ground	9,300			YES	(1)
42	Heppner	Morrow	Ground	1,700				
43	Parkrose W.D.	Multnomah	Ground	20,000			YES	(1)
44	Portland	Multnomah	Surface	382,000		YES	YES	(16)
45	Troutdale	Multnomah	Surface	2,365				
46	Dallas	Polk	Surface	7,000	YES		YES	(3)
47	Monmouth	Polk	Surface	4,500	YES		YES	(1)
48	Rufus	Sherman	Ground	500				
49	Tillamook	Tillamook	Surface	4,500			YES	(2)
50	Milton-Freewater	Umatilla	Surface	5,000			YES	(4)
51	Pendleton	Umatilla	Mixed	15,100	YES		YES	(1)
52	La Grande	Union	Mixed	11,000				
53	The Dalles	Wasco	Surface	12,000	YES		YES	(10)
54	Beaverton	Washington	Mixed	22,100			YES	(2)
55	Newberg	Yamhill	Mixed	8,145			YES	(2)

(*) Number of Qualified Operators

APPENDIX B

OREGON REVISED STATUTES, CHAPTER 488 AND SENATE BILLS 612 and 616

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Chapter 448

1973 REPLACEMENT PART

Swimming Facilities; Water Supplies

SWIMMING FACILITIES

448.005 Definitions for ORS 448.005 to 448.090
448.011 Authority of Health Division
448.020 Permit required to construct swimming facilities
448.030 Application for permit; contents; issuance or denial; inspection fee
448.035 License required to operate swimming facilities; fees; expiration date
448.040 Entry on premises for inspection purposes; reports
448.051 Inspection of facilities; suspension or revocation of permit or license; hearings on suspension or revocation
448.060 Closing facility
448.090 Disposition of moneys
448.100 Contract with county to administer ORS 448.005 to 448.060

WATER SUPPLY SYSTEMS

(Generally)

448.205 Definitions for ORS 448.205 to 448.325
448.210 Purpose

(Administration)

448.215 Division jurisdiction over domestic water supply sources
448.220 Compliance with rules required
448.225 Plan approval required before construction of supply system; plan content; resubmission if construction delayed
448.230 Samples of water to be submitted for laboratory analysis; reports; exception
448.235 Inspection of watersheds
448.240 Inspection of systems
448.245 Standards for water, water systems, and inspection and testing thereof
448.250 Remedy when water supply a health hazard
448.255 Notice of alleged violation; order; hearing; appeal
448.260 Order where supply inadequate; appeal
448.265 Prohibited actions; nuisance abatement
448.270 Rules of division
448.275 Contract with counties

(Civil Penalties)

448.280 Civil penalties; notice
448.285 Penalty schedule; factors to be considered in imposing penalty
448.290 When penalty due; notice; hearing; order as judgment

(City Authority)

448.295 Jurisdiction of cities over property used for system or sources
448.300 City ordinance authority to enforce ORS 448.295
448.305 Special ordinance authority of certain cities
448.310 Investigation of complaints
448.315 Special police to enforce ORS 448.295
448.320 Jurisdiction over violations of city ordinances
448.325 Injunction to enforce city ordinances

PENALTIES

448.990 Penalties

CROSS REFERENCES

Administrative procedures and rules of state agencies, Ch. 183

Deaths or injuries to be reported, Ch. 146

Discrimination on account of race, religion, color or national origin, in public places, 30.670

Lifesaving services on ocean shore, grants for cities and counties, 390.270 to 390.290

Swimming pools, joint construction and operation by local governments, Ch. 190

448.245

Health hazard annexations or district formation; facilities, services, boundaries, 222.850 to 222.915, 431.705 to 431.760

488.305

Health hazard annexation or district formation, facilities and services, boundaries, 431.705 to 431.760

448.315

Police standards and training, 181.610 to 181.690.

SWIMMING FACILITIES

448.005 Definitions for ORS 448.005 to 448.090. As used in ORS 448.005 to 448.090, unless the context requires otherwise:

(1) "Bathhouse" means a structure which contains dressing rooms, showers and toilet facilities for use with an adjacent public swimming pool.

(2) "Division" means the Health Division of the Department of Human Resources.

(3) "Administrator" means the Administrator of the Health Division.

(4) "Person" includes, in addition to the definition in ORS 174.100, municipalities, recreation districts, counties and state agencies or instrumentalities.

(5) "Public swimming pool" means an artificial structure, and its appurtenances, which contains water more than two feet deep which is used, or intended to be used, for swimming or recreational bathing and which is for the use of any segment of the public. A "public swimming pool" includes, but is not limited to, swimming pools owned or operated by (a) travelers' accommodations, (b) tourist parks, (c) colleges, (d) schools, (e) camps, (f) clubs, (g) associations, (h) business establishments for their patrons or employes, (i) private persons and which are open to the public, (j) recreation districts, (k) municipalities, (L) counties or (m) a state agency.

(6) "Public wading pool" means an artificial structure, and its appurtenances, which contains water less than two feet deep which is used, or intended to be used, for wading or recreational bathing and which is for the use of any segment of the public, whether limited to patrons of a companion facility or not.

(7) "Tourist park" includes campgrounds, picnic parks, trailer parks and all other establishments rented or kept for rent to any person for a charge or fee paid or to be paid for the rental or use of facilities, or offered free in connection with securing the trade or patronage of such persons, or for indirect benefit to the owner in connection with a related business; but "tourist park" does not include buildings, tents or other structures maintained by any person on his own premises and used exclusively to house his own farm or timber labor.

(8) "Travelers' accommodation" includes any establishment having rooms or apartments rented or kept for rent on a daily or weekly basis to travelers or transients for a charge or fee paid or to be paid for rental or use of facilities.
[1961 c.566 §1; 1973 c.215 §1]

448.010 [Repealed by 1961 c.566 §2 (ORS 448.011 enacted in lieu of ORS 448.010)]

448.011 Authority of Health Division. The division shall make such rules pertaining to the submission of plans for construction, issuance of permits, design, construction, size, shape, purification equipment, piping, operation, sanitation and accident prevention for public swimming pools, public wading pools and bathhouses as it deems necessary.
[1961 c.566 §3 (enacted in lieu of 448.010); 1971 c.650 §24; 1973 c.215 §2]

448.020 Permit required to construct swimming facilities. No person shall construct any public swimming pool or bathhouse without a permit to do so from the division.
[Amended by 1961 c.566 §4; 1973 c.215 §3]

448.030 Application for permit; contents; issuance or denial; inspection fee. (1) Any person desiring to construct any public swimming pool or bathhouse shall file application for permission to do so with the division.

(2) The application shall be accompanied by a description of the sources of water supply, amount and quality of water available and intended to be used, method and manner of water purification, treatment, disinfection, heating, regulating and cleaning, lifesaving apparatus, and measures to insure safety of bathers, measures to insure personal cleanliness of bathers, methods and manner of washing, disinfecting, drying and storing bathing apparel and towels, and all other information and statistics that may be required by the division.

(3) The division shall then cause an investigation to be made of the proposed public swimming pool or bathhouse. If the division determines that the public swimming pool or bathhouse is or may reasonably be expected to become unclean or unsanitary or may constitute a menace to public health or safety, it shall deny the application for permit. If the division determines that the public swimming pool or bathhouse is or may reasonably be expected to be conducted continuously in a clean and sanitary manner and will not constitute a menace to public health or safety, it shall grant the application for permit under such restriction as it shall deem proper.

(4) An applicant for a permit to construct a public swimming pool or bathhouse to be owned, operated or maintained by a person for profit, or in conjunction with a travelers' accommodation or tourist park, shall pay an inspection fee of $50 to the division. A permit granted under this section shall be sufficient authority to operate or maintain a public swimming pool or bathhouse until the end of the calendar year in which the permit is issued.
[Amended by 1961 c.566 §5; 1973 c.215 §4]

448.035 License required to operate swimming facilities; fees; expiration date. (1) No person shall operate or maintain a public swimming pool or bathhouse without a license to do so from the division.

(2) An annual fee of $25 shall be paid for a license to operate a public swimming pool or bathhouse either:

(a) For profit;

(b) For the primary benefit of the patrons, members or employes of the person operating the public swimming pool or bathhouse; or

(c) In conjunction with a travelers' accommodation or tourist park.

(3) Licenses issued under this section shall expire at the end of each calendar year.
[1961 c.566 §7; 1973 c.215 §5]

448.040 Entry on premises for inspection purposes; reports. For the purposes of ORS 448.005 to 448.090, the administrator may at all reasonable times enter upon any part of the premises of public bathing and swimming places to make examination and investigation to determine the sanitary conditions of such places and whether ORS 448.005 to 448.090 or the rules of the division pertaining to public swimming pools or bathhouses are being violated.
[Amended by 1961 c.566 §14; 1973 c.215 §6]

448.050 [Repealed by 1961 c.566 §9 (448.051 enacted in lieu of 448.050)]

448.051 Inspection of facilities; suspension or revocation of permit or license; hearings on suspension or revocation. (1) The administrator shall inspect all public swimming pools and bathhouses to determine the sanitary conditions of such places and whether ORS 448.005 to 448.090 and the rules of the division pertaining to public swimming pools and bathhouses are being violated.

(2) If the administrator determines that a public swimming pool or bathhouse is being operated or maintained in violation of the rules of the division or is found to be unsanitary, unclean or dangerous to public health or safety he shall suspend or revoke the permit or license issued under ORS 448.030 or 448.035 in accordance with ORS chapter 183.
[1961 c.566 §10; (enacted in lieu of 448.050); 1973 c.215 §7]

448.060 Closing facility. (1) No public swimming pool or bathhouse shall remain open to the public after the permit or license to operate such facilities has been suspended or revoked.

(2) Any public swimming pool or bathhouse constructed, operated or maintained contrary to ORS 448.005 to 448.090, is a public nuisance, dangerous to health.

(3) Such nuisance may be abated or enjoined in an action brought by the administrator or may be summarily abated in the manner provided by law for the summary abatement of public nuisances dangerous to health.
[Amended by 1961 c.566 §15; 1973 c.215 §8]

448.070 [1961 c.566 §13; repealed by 1973 c.215 §10]

448.080 [1961 c.566 §12; repealed by 1973 c.215 §10]

448.090 Disposition of moneys. All moneys collected under ORS 448.005 to 448.090 shall be paid into the General Fund in the State Treasury for credit to the Health Division Account and such moneys hereby are appropriated continuously and shall be used only for the administration and enforcement of ORS 448.005 to 448.090.
[1961 c.566 §8; 1973 c.427 §10]

448.100 Contract with county to administer ORS 448.005 to 448.060. (1) The Administrator of the Health Division shall contract with any county board of commissioners which requests such a contract for the purpose of carrying out any of the authority, responsibilities and functions of the Administrator of the Health Division under ORS 448.005 to 448.060 and this section if the administrator finds that the county employs or will employ sufficient qualified personnel to perform the functions which are the subject of the contract.

(2) If a fee is charged for performing any function which is the subject of a contract entered into under subsection (1) of this section, the Administrator of the Health

Division may disperse all or part thereof to the county pursuant to the contract.
[1973 c.215 §9]

448.110 [Repealed by 1967 c.344 §10]

448.120 [Repealed by 1967 c.344 §10]

448.130 [Repealed by 1967 c.344 §10]

WATER SUPPLY SYSTEMS

(Generally)

448.205 Definitions for ORS 448.205 to 448.325. As used in ORS 448.205 to 448.325 and subsections (2) to (6) of 448.990, unless the context requires otherwise:

(1) "Adequate" means sufficient in quantity to satisfy all peak demands during periods of maximum use without reduction in pressure below 30 pounds per square inch in the distribution system and without exhausting the supply at the source.

(2) "Administrator" means the Administrator of the Health Division of the Department of Human Resources.

(3) "Community water supply system" means a source of water and distribution system whether publicly or privately owned which serves more than three single residences or other users for the purpose of supplying water for household uses.

(4) "Construction" includes installation, alteration, repair, or extension.

(5) "Division" means the Health Division.

(6) "Domestic water supply source" means any lake, pond, impounding reservoir, spring, well, stream, creek, marsh, ditch, canal or other body of water which is or is likely to become the source of a community or public water supply system.

(7) "Governmental unit" means the state or any county, municipality or other political subdivision, or any agency thereof.

(8) "Household uses" means common uses within and around a house.

(9) "Local health administrator" means a city, county or local health officer.

(10) "Person" means any individual, corporation, association, firm, partnership or joint stock company and includes any receiver, trustee, assignee or other similar representative thereof.

(11) "Potable water" means water which is sufficiently free from biological, chemical or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects and which has such other physical properties as to be reasonably palatable to humans for drinking purposes.

(12) "Public health hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals and radioactive isotopes.

(13) "Public water supply system" means a source of water and a distribution system whether publicly or privately owned which serves a single user for the purpose of supplying water for household uses and where such water is provided for or is available through the single user for public consumption including, but not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel, a mobile home park or a group care home.
[1973 c.835 §§167, 168]

448.210 Purpose. The purpose of ORS 448.205 to 448.325 and subsections (2) to (6) of 448.990 is to promote the public health and welfare by providing a regulatory program for community and public water supply systems, and services related thereto, that will assure proper conservation of ground water, assure the availability of adequate and safe water for household use, minimize disease transmission potential and prevent nuisances and hazards to public health.
[1973 c.835 §169]

(Administration)

448.215 Division jurisdiction over domestic water supply sources. The Health Division shall have jurisdiction over all domestic water supply sources and shall:

(1) Cause such sources and surroundings to be examined periodically to ascertain whether the sources are adapted for use as water supplies for drinking and other household uses, or are in a condition likely to imperil the public health, safety or welfare.

(2) Consult with and advise cities, corporations or firms operating or intending to construct community or public water supply systems, concerning the most appropriate domestic water supply sources, the best practical methods of assuring the purity thereof or of disposing of their drainage or sewage.

In so doing, the division shall consider the present and prospective needs and interests of other cities, corporations or firms which may be affected by the action.
[Formerly 449.215]

448.220 Compliance with rules required. (1) It is unlawful for any person or governmental unit to operate a community or public water supply system in violation of the rules of the division.

(2) Any community or public water supply system constructed prior to January 1, 1972, which has been approved by the division and does not present or threaten to present a health hazard, shall not be subject to rules which may be adopted under ORS 448.245 after January 1, 1972. However, extensions, modifications, or alterations of these systems must comply with all rules adopted under ORS 448.245 and in effect at the time the extension, modification or alteration is approved pursuant to subsection (1) of ORS 448.225.
[Formerly 449.223]

448.225 Plan approval required before construction of supply system; plan content; resubmission if construction delayed. (1) Before performing any ground work other than examinations or surveys, any person or governmental unit desiring to construct a new community or public water supply system, to extend or to provide any new or additional pumping, transmission, treatment or storage facilities for an existing community or public water supply system, or to provide any new source of water for an existing community or public water supply system shall submit plans to the division and must have received from the division approval of the plans, either as originally submitted or as modified pursuant to the division's requirement.

(2) In the case of a proposal to construct a new community or public water supply system, plans and specifications shall be submitted to the division showing:

(a) The source of the supply and quantity of water available.

(b) The transmission and distribution systems, with further information as to the amount proposed to be taken and transmitted.

(c) The drainage areas or location of ground water from which the waters are to be derived.

(d) The biological, chemical, radiological and physical quality of the supply.

(e) The kind and character of the works for gathering, treating and storing the water.

(f) The services to be supplied.

(g) Any additional data which the division may require to pass upon whether the proposed system will be in compliance with the rules of the division adopted under ORS 448.245.

(3) The administrator or his authorized representative may require additional or revised plans and specifications to be submitted with such data as may be necessary to determine whether the proposal will be in compliance with the rules of the division adopted under ORS 448.245.

(4) If construction of the system has not been started within one year from the date of approval by the division, resubmission of the plans and specifications to the division for approval is required before any construction is undertaken. However, if the proposed plan calls for completion of the project in a series of successive phases over a period of years, the approval under subsection (1) of this section applies to the entire project.

(5) The division may require by rule that plans and specifications required under this section be prepared by persons qualified to perform such work.
[Formerly 449.220]

448.230 Samples of water to be submitted for laboratory analysis; reports; exception. (1) In compliance with rules of the division, every person or governmental unit operating a community or public water supply system shall collect and submit samples of water from the system for bacteriological analysis.

(2) The results of the laboratory analysis shall be reported to the local health administrator and to the person or governmental unit responsible for the operation of the water supply system.

(3) This section and the enforcement provisions relating thereto do not apply to any railroad company which is subject to the jurisdiction of the Interstate Commerce Commission.
[Formerly 449.225]

448.235 Inspection of watersheds. (1) Whenever any domestic water supply source is derived from surface sources, every person or governmental unit operating a community or public water supply system from such a source shall conduct such sanitary inspections of the watershed as may be considered

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necessary by the division for the protection of public health.

(2) The inspection of the watershed shall include an examination of sewage and waste disposal facilities at houses, business establishments, industries and buildings on the watershed.

(3) The sewage and waste disposal facilities described in subsection (2) of this section shall be constructed and operated in accordance with the rules of the Environmental Quality Commission.

(4) Written reports of all inspections shall be made promptly to the administrator and to the Director of the Department of Environmental Quality.
[Formerly 449.235]

448.240 Inspection of systems. The administrator or his authorized representative may at reasonable times inspect community and public water supply systems to determine whether they or the water supplied therefrom conform to applicable law and to rules adopted pursuant thereto.
[Formerly 449.227]

448.245 Standards for water, water systems, and inspection and testing thereof. In compliance with ORS chapter 183 and to carry out the purposes of ORS 448.210, the division shall:

(1) Prescribe minimum standards for the biological, chemical, radiological and physical quality of water supplied from community and public water supply systems.

(2) Set forth minimum requirements for the design, construction, maintenance, interconnection with other water sources and operation of community and public water supply systems.

(3) Provide criteria and procedures for inspection and testing of community and public water supply systems and existing, new and undeveloped domestic water supply sources to determine suitability.
[Formerly 449.237]

448.250 Remedy when water supply a health hazard. (1) Whenever a community or public water supply system or part thereof presents or threatens to present a public health hazard requiring immediate action to protect the public health, safety and welfare, the administrator may request the district attorney of the county wherein the system is located to institute a suit in equity. The suit may be commenced without the necessity of prior administrative procedures or hearing and entry of an order or at any time during such administrative proceedings, if such proceedings have been commenced. The suit may petition for a mandatory injunction compelling the person or governmental unit responsible for the operation of the system to cease and desist operation or to make such improvements and corrections as are necessary to remove the public health hazard or threat thereof.

(2) Cases filed under provisions of this section or any appeal therefrom shall be given preference on the docket over all other civil cases except those given an equal preference by statute.

(3) Nothing in this section is intended to prevent the maintenance of actions at law or suits in equity relating to private or public nuisance or for recovery of damages brought by private persons or by the state on relation of any person.
[Formerly 449.247]

448.255 Notice of alleged violation; order; hearing; appeal. (1) Whenever the administrator has reasonable grounds to believe that a community or public water supply system or part thereof is being operated or maintained in violation of any rule adopted pursuant to ORS 448.270, he shall give written notice to the person or persons in control of the system or facility.

(2) The notice required under subsection (1) of this section shall include the following:

(a) Citation of the rule allegedly violated;

(b) The manner and extent of the alleged violation; and

(c) A statement of the party's right to request a hearing.

(3) The notice shall be served personally or by registered or certified mail and shall be accompanied by an order of the administrator requiring remedial action which, if taken within the time specified in the order, will effect compliance with the rule allegedly violated. The order shall become final unless request for hearing is made by the party receiving the notice within 10 days from the date of personal service or the date of mailing of the notice.

(4) The form of petition for hearing and the procedures employed in the hearing shall be consistent with the requirements of ORS chapter 183 and shall be in accordance with rules adopted by the division.

(5) The administrator may designate a hearings officer to act on his behalf in holding and conducting hearings.

(6) The order shall be affirmed or reversed by the administrator after hearing. A copy of the administrator's decision setting forth findings of fact and conclusions shall be sent by registered or certified mail to the petitioner or served personally upon him. An appeal from such decision may be made as provided in ORS 183.480 relating to a contested case.
[1973 c.835 §171]

448.260 Order where supply inadequate; appeal. (1) Whenever the water supply in a community or public water supply system is not adequate, the administrator may enter an order which:

(a) Restricts the water usage to essential needs;

(b) Prohibits the installation of additional service connections;

(c) Prohibits any extensions of the system; or

(d) Any combination of paragraph (a), (b) or (c) of this subsection.

(2) The order shall set forth the restriction or the prohibition, including but not limited to any time or duration restriction, any specific use restriction and the description of any prohibition.

(3) Any person aggrieved by any order of the administrator issued under subsection (1) of this section may appeal from such order in accordance with the provisions of ORS chapter 183 relating to a contested case. However, notwithstanding subsection (3) of ORS 183.480 relating to a stay of enforcement of an agency decision, any reviewing court before it may stay an order of the administrator shall give due consideration to the public interest in the continued enforcement of such order and may take testimony thereon.
[1973 c.835 §185]

448.265 Prohibited actions; nuisance abatement. (1) It shall be unlawful for any person to do any of the following if the result would be to pollute a domestic water supply source or to destroy or endanger a public or community water supply:

(a) Establish or maintain any slaughter pen, stock-feeding yards or hogpens.

(b) Deposit or maintain any uncleanly or unwholesome substance.

(2) Violation of paragraph (a) or (b) of subsection (1) of this section is a public nuisance and may be abated as other nuisances under the laws of this state.
[Formerly 449.320]

448.270 Rules of division. In accordance with the applicable provisions of ORS chapter 183, the division shall adopt such rules as it considers necessary and proper for the purpose of carrying out ORS 448.205 to 448.325 and subsections (2) to (6) of 448.990.
[1973 c.835 §170]

448.275 Contract with counties. The administrator may contract with district or county boards of health to perform the duties of the administrator or the division under ORS 448.230 and 448.240.
[1973 c.835 §173]

(Civil Penalties)

448.280 Civil penalties; notice. (1) In addition to any other penalty provided by law, any person who violates any rule of the division relating to the construction, operation or maintenance of a community or public water supply system or part thereof shall incur a civil penalty not to exceed $500 for each day of violation.

(2) No civil penalty prescribed under subsection (1) of this section shall be imposed until the person incurring the penalty has received five days' advance notice in writing from the division or unless the person incurring the penalty shall otherwise have received actual notice of the violation not less than five days prior to the violation for which a penalty is imposed.
[1973 c.835 §174]

448.285 Penalty schedule; factors to be considered in imposing penalty. (1) The administrator of the division shall adopt by rule a schedule or schedules establishing the amount of civil penalty that may be imposed for a particular violation. No civil penalty shall exceed $500 per day.

(2) The administrator may impose the penalty without hearing but only after the notice required by subsection (2) of ORS 448.280. In imposing a penalty pursuant to the schedule or schedules adopted pursuant to this section, the administrator shall consider the following factors:

(a) The past history of the person incurring a penalty in taking all feasible steps or procedures necessary or appropriate to correct any violation.

(b) Any prior violations of statutes, rules, orders and permits pertaining to the public or community water supply system.

(c) The economic and financial conditions of the person incurring the penalty.

(3) The penalty imposed under this section may be remitted or mitigated upon such terms and conditions as the division considers proper and consistent with the public health and safety.
[1973 c.835 §175]

448.290 When penalty due; notice; hearing; order as judgment. (1) Any civil penalty imposed under ORS 448.285 shall become due and payable when the person incurring the penalty receives a notice in writing from the administrator of the division. The notice shall be sent by registered or certified mail, shall conform to the requirements of ORS 183.415 and shall include a statement of the amount of the penalty.

(2) The person to whom the notice is addressed shall have 20 days from the date of mailing of the notice in which to make written application for a hearing before the division.

(3) All hearings shall be conducted pursuant to the provisions of ORS chapter 183 applicable to a contested case.

(4) Unless the amount of the penalty is paid within 10 days after the order becomes final, the order shall constitute a judgment and may be filed in accordance with the provisions of ORS 18.320 to 18.370. Execution may be issued upon the order in the same manner as execution upon a judgment of a court of record.

(5) All amounts recovered under this section shall be paid into the State Treasury and credited to the General Fund.
[1973 c.835 §176]

(City Authority)

448.295 Jurisdiction of cities over property used for system or sources. Subject to the authority of the Health Division under ORS 448.215, for the purpose of protecting from pollution their domestic water supply sources, cities shall have jurisdiction over all property:

(1) Occupied by the distribution system or by the domestic water supply sources by and from which the city or any person or corporation provides water to the inhabitants of the city.

(2) Acquired, owned or occupied for the purpose of preserving or protecting the purity of the domestic water supply source.

(3) Acquired, owned or occupied by cities within the areas draining into the domestic water supply sources.
[Formerly 449.305]

448.300 City ordinance authority to enforce ORS 448.295. Cities may prescribe by ordinance what acts constitute offenses against the purity of the water supply and the punishment or penalties therefor and may enforce those ordinances within their corporate limits and on property described in ORS 448.295.
[Formerly 449.310]

448.305 Special ordinance authority of certain cities. (1) Subject to subsection (2) of this section, by ordinance a city may prohibit or restrict access for purposes of fishing, hunting, camping, hiking, picnicking, trapping of wild animals or birds, harvesting of timber or mining or removal of minerals or carrying on any other activity in its watershed area, or by ordinance may permit any such activity in its watershed area upon conditions specified in the ordinance. However, no ordinance passed under authority of this section shall prohibit the hunting or trapping of fur-bearing or predatory mammals doing damage to public or private property or prohibit the hunting or trapping of any bird or mammal for scientific purposes, as defined in subsection (3) of ORS 497.298.

(2) Subsection (1) of this section applies only to cities with respect to watershed areas which are the subject of an agreement between the city and the United States or any department or agency thereof, which agreement authorizes such action by the city.

(3) An ordinance adopted by any city pursuant to this section shall include a penalty clause providing for a penalty upon conviction of a fine of not more than $100 or imprisonment for not more than 30 days, or both such fine and imprisonment.

(4) After adoption of an ordinance pursuant to subsection (1) of this section, a city shall post the area with suitable signs setting forth the prohibition of access or the conditions of limited access imposed by the ordinance. Failure to post the area as required in this subsection shall be a defense in any prosecution under an ordinance adopted by any city under authority of this section.
[Formerly 449.327]

448.310 Investigation of complaints. The officer in charge of the domestic water supply source or the community water supply system serving the city shall investigate complaints made to him concerning purity of the source or system and if the complaint appears to be well founded, file a complaint against the person violating ordinances of the city and cause his arrest and prosecution.
[Formerly 449.335]

448.315 Special police to enforce ORS 448.295. The mayor or authorities having control of the community water supply system supplying the city may appoint special policemen who:

(1) After taking oath, shall have the powers of constables.

(2) May arrest with or without warrant any person committing, within the territory described in ORS 448.295, for:

(a) Any offense against the purity of the domestic water supply source or the community water supply system under state law or an ordinance of such city; or

(b) Any violation of any rule of the division or the authorities having control of the city water system for the protection of the purity of the domestic water supply source or the community water supply system.

(3) May take any person arrested for any violation under this section before any court having jurisdiction thereof to be proceeded with according to law.

(4) When on duty, shall wear in plain view a badge or shield bearing the words "Special Police" and the name of the city for which he is appointed.
[Formerly 449.315]

448.320 Jurisdiction over violations of city ordinances. The municipal or recorder's court of any city passing an ordinance under authority of ORS 448.300 or 448.305 and the justice of the peace court or district court of the county wherein such city is located or in which the watershed area is located shall have concurrent jurisdiction to try and determine any prosecution brought under such ordinance. If prosecution is had in a justice of the peace court or a district court, the court shall remit to the city, after deducting court costs, the amount of any fine collected, except as otherwise provided by subsection (2) of ORS 46.045. If a jail term is imposed, the convicted person shall be confined in the city jail or in the county jail and if confined in the county jail the county shall be entitled to recover from the city the actual costs of such incarceration.
[Formerly 449.328]

448.325 Injunction to enforce city ordinances. In cases of violation of any ordinance adopted under ORS 448.300 or 448.305 any city or any corporation owning a domestic water supply source or the community water supply system for the purpose of supplying any city or its inhabitants with water may have the nuisance enjoined by civil action in the circuit court of the proper county. The injunction may be perpetual.
[Formerly 449.340]

PENALTIES

448.990 Penalties. (1) Violation of ORS 448.005 to 448.090 by any person, firm or corporation, whether acting as principal or agent, employer or employe, is punishable, upon conviction, by a fine of not less than $25 nor more than $500 or by imprisonment in the county jail not exceeding six months, or by both. Each day that the violation continues is a separate offense.

(2) Violation of ORS 448.225 or 448.235 is a Class A misdemeanor.

(3) Violation of ORS 448.220, 448.230 or failure to comply with any order issued by the Administrator of the Health Division pursuant to ORS 448.260 by any owner or public or private official or person responsible for the operation of a community or public water supply is a Class A misdemeanor.

(4) Violation of any rule of the Health Division adopted pursuant to ORS 448.205 to 448.325 and subsections (2) to (6) of this section.

(5) Violation of ORS 448.265 is a Class B misdemeanor.

(6) Violation of ORS 468.770 is a Class A misdemeanor.
[Amended by 1967 c.344 §8; subsections (2) to (5) enacted as 1973 c.835 §177; subsection (6) enacted as 1973 c.835 §177a]

114

CERTIFICATE OF LEGISLATIVE COUNSEL

Pursuant to ORS 173.170, I, Thomas G. Clifford, Legislative Counsel, do hereby certify that I have compared each section printed in this chapter with the original section in the enrolled bill, and that the sections in this chapter are correct copies of the enrolled sections, with the exception of the changes in form permitted by ORS 173.160 and other changes specifically authorized by law.

Done at Salem, Oregon,
on November 1, 1973.

Thomas G. Clifford
Legislative Counsel

OREGON LEGISLATIVE ASSEMBLY--1975 REGULAR SESSION

Enrolled

Senate Bill 612

Sponsored by Senators HEARD, MEEKER, Representative SUMNER

CHAPTER 254

AN ACT

Relating to water supply systems; creating new provisions; amending ORS 448.205, 448.210, 448.215, 448.220, 448.225, 448.230, 448.235, 448.240, 448.245, 448.250, 448.255, 448.260, 448.265, 448.280, 448.285 and 448.990; providing penalties; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

Section 1. ORS 448.205 is amended to read:

448.205. As used in ORS 448.205 to 448.325 and subsections (2) to (6) of 448.990, unless the context requires otherwise:

(1) "Adequate" means **a domestic water supply source and distribution system, each** sufficient in [*quantity*] **capability** to [*satisfy*] **supply** all peak **daily** demands **and instantaneous demands** during periods of maximum use without reduction in pressure below [*30*] **20** pounds per square inch [*in the distribution system and without exhausting the supply at the source*] **at any service connection, except during an emergency**.

(2) "Administrator" means the Administrator of the Health Division of the Department of Human Resources.

(3) "Community water supply system" means a [*source of water and distribution system whether publicly or privately owned*] **domestic water supply source or distribution system** which serves more than three single residences or other users for the purpose of supplying water for household uses**, but is neither a municipal water supply system nor a public utility water supply system**.

(4) "Construction" [*includes*] **means** installation [*, alteration, repair,*] or extension.

(5) "Distribution system" includes but is not limited to distribution main pipelines, pumping stations, pressure pumps, pressure tanks, valves and other ancillary equipment used to transmit water from a domestic water supply source to the prospective user's service line.

[*(5)*] **(6)** "Division" means the Health Division.

[*(6)*] **(7)** "Domestic water supply source" means any lake, pond, impounding reservoir, **water storage facility, water treatment facility,** spring, well, stream, creek, river, marsh, ditch, canal or other body of water [*which is or is likely to become the source of a*] **from which water is derived for municipal, public utility,** community or public water supply [*system*] **systems**.

(8) "Emergency" means the result of any natural element or mechanical failure which is unpredictable and temporary or infrequent, and which causes a domestic water supply source or distribution system to be temporarily less than adequate.

(9) "Final plans" are limited to approved tentative plans, along with modifications, alterations or required revisions, as constructed.

[*(7)*] **(10)** "Governmental unit" means the state or any county, municipality or other political subdivision, or any agency thereof.

[*(8)*] **(11)** "Household uses" means common uses within and around a house.

(12) "Instantaneous demand" means the actual measured maximum rate that water is supplied through a distribution system at any time, measured in gallons per minute. Where actual measured rates are not available, actual measurements from similar systems shall be used to derive a reasonable estimate.

[*(9)*] **(13)** "Local health administrator" means a city, county or local health officer.

(14) "Municipal water supply system" means domestic water supply sources and distribution systems owned and operated by a city or a county; or owned and operated by a special district or other public corporation which has independent tax-levying powers to support the system and which supplies water to a total of 1,000 or more households.

(15) "Peak daily demand" means the actual measured maximum quantity of water to be supplied through a distribution system during any 24-hour period. Where the actual measured quantities are not available, actual measurements from similar systems shall be used to derive a reasonable estimate.

[*(10)*] **(16)** "Person" means any individual, corporation, association, firm, partnership or joint stock company and includes any receiver, trustee, assignee or other similar representative thereof.

[*(11)*] **(17)** "Potable water" means water which is sufficiently free from biological, chemical**, physical** or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects and which has such other physical properties as to be [*reasonably*] palatable to humans for drinking purposes.

[*(12)*] **(18)** "Public health hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals and radioactive isotopes.

(19) "Public utility water supply system" means domestic water supply sources and distribution systems supplying water for household uses, owned and operated by a person subject to regulation by the Public Utility Commissioner of Oregon and supplying water to a total of 500 or more households.

[*(13)*] **(20)** "Public water supply system" means a [*source of water and a distribution system whether publicly or privately owned which serves a single user for the purpose of supplying water for household uses and*] **domestic water supply source and distribution system other than a municipal water supply system or public utility water supply system** where [*such*] water is provided for or is available through the single user for public consumption including, but not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel [*, a mobile home park*] or a group care home.

(21) "Tentative plans" include designs, specifications, materials and locations proposed for construction.

(22) "User service line" means the extension, from the distribution system to a user, that is regulated by the plumbing code.

Section 2. ORS 448.210 is amended to read:

448.210. The purpose of ORS 448.205 to 448.325 and subsections (2) to

(6) of 448.990 is to promote the public health and welfare by providing a regulatory program **and services related thereto for:**

(1) Domestic water supply sources [*for community and public water supply systems, and services related thereto,*] that will assure [*proper conservation of ground water, assure the availability of adequate and safe water for household use, minimize disease transmission potential and prevent nuisances and hazards to public health.*] **the availability of potable water and prevent public health hazards and public nuisances; and**

(2) Community and public water supply systems that will provide for adequate water.

Section 3. ORS 448.215 is amended to read:

448.215. **(1)** The Health Division shall have jurisdiction over all domestic water supply sources and shall:

[*(1)*] **(a)** Cause such sources and surroundings to be examined periodically to ascertain whether the sources are adapted for use as water supplies for drinking and other household uses, or are in a condition likely to [*imperil the public health, safety or welfare*] **cause a public health hazard** .

[*(2)*] **(b)** Consult with and advise cities, corporations or firms operating or intending to construct [*community or public*] water supply systems, concerning the most appropriate domestic water supply sources, the best practical methods of assuring the purity thereof or of disposing of their drainage or sewage. In so doing, the division shall consider the present and prospective needs and interests of other cities, corporations or firms which may be affected by the action.

(2) The Health Division shall have jurisdiction over all community and public water supply systems and shall:

(a) Cause the systems to be examined periodically to ascertain whether the systems deliver adequate water for household use.

(b) Consult with and advise entities operating or intending to construct community or public water supply systems concerning the best practical methods of delivering adequate water.

Section 4. ORS 448.220 is amended to read:

448.220. (1) It is unlawful for any person or governmental unit to operate a [*community or public*] water supply system in violation of the rules of the division.

(2) Any community or public water supply system [*constructed prior to January 1, 1972,*] **or any domestic water supply source, the tentative plans for** which [*has*] **have** been approved by the division [*and*] **according to the rules adopted under ORS 448.225 at the time of the approval, and which** does not [*present or*] threaten to [*present a*] **cause a public health** hazard, shall not be subject to rules which may be adopted under ORS 448.245 after [*January 1, 1972*] **the date of approval** . However, extensions, modifications, or alterations of these systems must comply with all rules adopted under ORS 448.245 and in effect at the time the extension, modification or alteration is approved pursuant to [*subsection*] **subsections (1) and (3)** of ORS 448.225.

Section 5. ORS 448.225 is amended to read:

448.225. (1) Before performing any ground work other than examinations or surveys, any person or governmental unit desiring to construct a new community or public water supply system, to extend or to provide any new or additional pumping, transmission, treatment or storage facilities for an existing community or public water supply system [*, or to provide any new source of water for an existing community or public water supply system*] shall submit **tentative** plans to the division and must have received from the division approval of the **tentative** plans, either as originally submitted or as modified pursuant to the division's requirement.

(2) In the case of a proposal to construct a new community or public water supply system, **tentative** plans and specifications shall be submitted to the division showing:

(a) The source of the supply and quantity of water available.

(b) The transmission and distribution systems, with further information as to the amount proposed to be taken and transmitted.

[*(c) The drainage areas or location of ground water from which the waters are to be derived.*]

[*(d) The biological, chemical, radiological and physical quality of the supply.*]

[*(e) The kind and character of the works for gathering, treating and storing the water.*]

[*(f)*] **(c)** The number of services to be supplied.

[*(g)*] **(d)** Any additional data which the division may require to pass upon whether the proposed system will be in compliance with the rules of the division adopted under ORS 448.245.

(3) In the case of an extension from, or to, any new or additional pumping, transmission, treatment or storage facilities for an existing community or public water supply system, the administrator or his authorized representative may require additional or revised **tentative** plans and specifications to be submitted with such data as may be necessary to determine whether the proposal will be in compliance with the rules of the division adopted under ORS 448.245.

(4) If construction of the system has not been [*started*] **completed** within one year from the [*date of approval*] **completion date specified on the tentative plans** approved by the division, resubmission of the **tentative** plans and specifications to the division for approval is required before any **additional** construction is undertaken. However, if the proposed plan calls for completion of the project in a series of successive phases over a period of years, the approval under subsection (1) of this section applies to the entire project.

(5) Before operating a community or public water supply system for which tentative plans have been approved, final plans shall be submitted and approved by the division, either as originally submitted or as modified to meet requirements in effect at the time of tentative approval pursuant to this section.

(6) Within 21 days after receipt of the final plans the division shall approve the final plans for the community or public water supply system as long as any modifications or alterations of the approved tentative plans meet the requirements pursuant to this section. Approval of the final plans by the division shall constitute approval of the community or public water supply system.

[*(5)*] **(7)** The division may require by rule that **all** plans and specifications required under this section be prepared by persons qualified to perform such work.

Section 6. ORS 448.230 is amended to read:

448.230. (1) In compliance with rules of the division, every person or governmental unit operating a community**, public utility, municipal** or public water supply system shall collect and submit samples of water from the system for bacteriological analysis. **These samples shall be analyzed in a laboratory approved by the division.**

(2) The results of the laboratory analysis shall be reported to the local health administrator and to the person or governmental unit responsible for the operation of the water supply system.

(3) This section and the enforcement provisions relating thereto do not apply to any railroad company which is subject to the jurisdiction of the Interstate Commerce Commission.

Section 7. ORS 448.235 is amended to read:

448.235. (1) Whenever any domestic water supply source is derived from surface sources, every person or governmental unit operating [*a community or public water supply system*] from [*such a*] **the** source shall conduct such sanitary inspections of the watershed as may be considered necessary by the division for the protection of public health.

(2) The inspection of the watershed shall include an examination of sewage and waste disposal facilities at houses, business establishments, industries and buildings on the watershed.

(3) The sewage and waste disposal facilities described in subsection (2) of this section shall be constructed and operated in accordance with the rules of the Environmental Quality Commission.

(4) Written reports of all inspections shall be made promptly to the administrator and to the Director of the Department of Environmental Quality.

Section 8. ORS 448.240 is amended to read:

448.240. The administrator or his authorized representative may at reasonable times inspect community, **public utility, municipal** and public water supply systems to determine whether they or the water supplied therefrom conform to applicable law and to rules adopted pursuant thereto.

Section 9. ORS 448.245 is amended to read:

448.245. In compliance with ORS chapter 183 and to carry out the purposes of ORS 448.210, the division shall:

(1) Prescribe minimum standards for the biological, chemical, radiological and physical quality of water supplied from [*community and public*] water supply systems.

(2) Set forth **guidelines and** minimum requirements for the design, construction, maintenance, interconnection with other water sources and operation of community and public water supply systems **to provide adequate and potable water. A guideline as used in this section shall not be a mandatory requirement but shall provide suggested alternatives for achieving minimum requirements.**

(3) Provide criteria and procedures for inspection and testing of [*community and public*] water supply systems and existing, new and undeveloped domestic water supply sources to determine [*suitability*] **that the water is potable**.

(4) Determine types of materials not suitable for construction of water systems where use of such materials has been found to cause a public health hazard. Any rule designating such hazardous materials shall include the basis for the findings by the division.

Section 10. ORS 448.250 is amended to read:

448.250. (1) Whenever a community, **public utility, municipal** or public water supply system or part thereof presents or threatens to present a public health hazard requiring immediate action to protect the public health, safety and welfare, the administrator may request the district attorney of the county wherein the system is located to institute a suit in equity. The suit may be commenced without the necessity of prior administrative procedures or hearing and entry of an order or at any time during such administrative proceedings, if such proceedings have been commenced. The suit may petition for a mandatory injunction compelling the person or governmental unit responsible for the operation of the system to cease and desist operation or to make such improvements and corrections as are necessary to remove the public health hazard or threat thereof.

(2) Cases filed under provisions of this section or any appeal therefrom shall be given preference on the docket over all other civil cases except those given an equal preference by statute.

(3) Nothing in this section is intended to prevent the maintenance of

actions at law or suits in equity relating to private or public nuisance or for recovery of damages brought by private persons or by the state on relation of any person.

Section 11. ORS 448.255 is amended to read:

448.255. (1) Whenever the administrator has reasonable grounds to believe that a community **, public utility, municipal** or public water supply system or part thereof is being operated or maintained in violation of any rule adopted pursuant to ORS 448.270, he shall give written notice to the person or [*persons in control of*] **governmental unit responsible for the** system or facility.

(2) The notice required under subsection (1) of this section shall include the following:

(a) Citation of the rule allegedly violated;

(b) The manner and extent of the alleged violation; and

(c) A statement of the party's right to request a hearing.

(3) The notice shall be served personally or by registered or certified mail and shall be accompanied by an order of the administrator requiring remedial action which, if taken within the time specified in the order, will effect compliance with the rule allegedly violated. The order shall become final unless request for hearing is made by the party receiving the notice within 10 days from the date of personal service or the date of mailing of the notice.

(4) The form of petition for hearing and the procedures employed in the hearing shall be consistent with the requirements of ORS chapter 183 and shall be in accordance with rules adopted by the division.

(5) The administrator may designate a hearings officer to act on his behalf in holding and conducting hearings.

(6) The order shall be affirmed or reversed by the administrator after hearing. A copy of the administrator's decision setting forth findings of fact and conclusions shall be sent by registered or certified mail to the petitioner or served personally upon him. An appeal from such decision may be made as provided in ORS 183.480 relating to a contested case.

Section 12. ORS 448.265 is amended to read:

448.265. (1) It shall be unlawful for any person to do any of the following if the result would be to pollute a domestic water supply source or to destroy or endanger a public **, municipal, public utility** or community water supply **system** :

(a) Establish or maintain any slaughter pen, stock-feeding yards or hogpens.

(b) Deposit or maintain any uncleanly or unwholesome substance.

(2) Violation of paragraph (a) or (b) of subsection (1) of this section is a public nuisance and may be abated as other nuisances under the laws of this state.

Section 13. ORS 448.280 is amended to read:

448.280. (1) In addition to any other penalty provided by law, any person who violates any rule of the division relating to the construction, operation or maintenance of a community **, public utility, municipal** or public water supply system or part thereof shall incur a civil penalty not to exceed $500 for each day of violation.

(2) No civil penalty prescribed under subsection (1) of this section shall be imposed until the person incurring the penalty has received five days' advance notice in writing from the division or unless the person incurring the penalty shall otherwise have received actual notice of the violation not less than five days prior to the violation for which a penalty is imposed.

Section 14. ORS 448.285 is amended to read:

448.285. (1) The administrator of the division shall adopt by rule a schedule or schedules establishing the amount of civil penalty that may be imposed for a particular violation. No civil penalty shall exceed $500 per day.

(2) The administrator may impose the penalty without hearing but only after the notice required by subsection (2) of ORS 448.280. In imposing a penalty pursuant to the schedule or schedules adopted pursuant to this section, the administrator shall consider the following factors:

(a) The past history of the person incurring a penalty in taking all feasible steps or procedures necessary or appropriate to correct any violation.

(b) Any prior violations of statutes, rules, orders and permits pertaining to the public, **municipal, public utility** or community water supply system.

(c) The economic and financial conditions of the person incurring the penalty.

(3) The penalty imposed under this section may be remitted or mitigated upon such terms and conditions as the division considers proper and consistent with the public health and safety.

SECTION 15. Sections 16, 17 and 17a of this Act are added to and made a part of ORS 448.205 to 448.325.

SECTION 16. (1) Before constructing a domestic water supply source, any person, entity or government unit shall submit tentative plans to the division and must have approval of the plans, either as originally submitted or as modified pursuant to the division's requirements for potable water. The tentative plans shall be submitted to the division showing:

(a) Domestic water supply source site location.

(b) Drainage areas, watersheds and topography.

(c) Approximate location of waters or ground waters from which the water is to be derived.

(d) Biological, chemical, radiological and physical quality of the water.

(e) The kind and character of the works for gathering, treating and storing the water.

(f) Any additional data which the division may require to determine that the water derived from the source will be in compliance with standards adopted under subsections (1) and (3) of ORS 448.245.

(2) Notwithstanding the provisions of subsection (1) of this section, before constructing or testing a domestic water well, any person, entity or government unit shall submit tentative plans to the division and must have approval of the plans, either as originally submitted or as modified pursuant to the division's requirements, showing the requirements of paragraphs (a), (b) and (c) of subsection (1) of this section. Before any additional construction of the works, all the remaining provisions of subsection (1) of this section shall be complied with.

(3) Before operating a domestic water supply source for which tentative plans have been approved, final plans must be approved by the division, either as originally submitted or as modified to meet requirements in effect at the time of tentative approval pursuant to this section.

(4) The division shall approve the domestic water supply source final plans provided that any modifications or alterations of the approved tentative plans meet the requirements pursuant to this section. Approval of the final plans by the division shall constitute approval of the domestic water supply.

(5) The division may require by rule that tentative and final plans required under this section be prepared by persons qualified to perform such work.

SECTION 17. (1) Notwithstanding the provisions of or any rules adopted pursuant to ORS 448.205 to 448.325, during an emergency and for a reasonable time thereafter, the administrator or his authorized representative shall provide for exemptions when:

(a) The person or governmental unit operating a community, public, public utility or municipal water supply system declares that the time required for compliance under ORS 448.220 causes or is likely to cause a system to supply water that is not adequate or that is a public health hazard.

(b) The administrator or his authorized representative determines that the time required for compliance under ORS 448.220 causes or is likely to cause a system to supply water that is not adequate or that is a public health hazard.

(2) Within 30 days after remedy of an emergency, the person or governmental unit operating a community, public, public utility or municipal water supply system pursuant to subsection (1) of this section shall comply with all rules of the division adopted pursuant to subsection (2) of ORS 448.220.

SECTION 17a. (1) The division shall either approve submitted tentative plans for domestic water supply sources, community water supply systems and public water supply systems, as originally submitted, or shall propose modifications pursuant to the division's standards, within 21 days of submission.

(2) Tentative plans amended to include modifications pursuant to the division's standards and resubmitted shall be considered approved upon resubmission.

(3) Tentative plans otherwise modified and resubmitted to the division for approval shall be considered as submitted tentative plans under subsection (1) of this section.

(4) Submitted tentative plans neither approved nor modified by the division as provided in subsection (1), (2) or (3) of this section shall be considered approved by the division upon submission of a written statement to the division from the person submitting the tentative plans certifying that the tentative plans meet the division's standards.

(5) Within three days after resubmission of the tentative plans pursuant to subsection (2) of this section or within three days after submission of written certification pursuant to subsection (4) of this section, the division shall issue an unconditional written statement of approval of the tentative plans.

Section 18. ORS 448.990 is amended to read:

448.990. (1) Violation of ORS 448.005 to 448.090 by any person, firm or corporation, whether acting as principal or agent, employer or employe, is punishable, upon conviction, by a fine of not less than $25 nor more than $500 or by imprisonment in the county jail not exceeding six months, or by both. Each day that the violation continues is a separate offense.

(2) Violation of ORS 448.225 or 448.235 is a Class A misdemeanor.

(3) Violation of ORS 448.220, 448.230 or failure to comply with any order issued by the Administrator of the Health Division pursuant to ORS 448.260 by any owner or public or private official or person responsible for the operation of a community or public water supply is a Class A misdemeanor.

(4) Violation of any rule of the Health Division adopted pursuant to ORS 448.205 to 448.325 [*and subsections (2) to (6) of this section*] **is a Class A misdemeanor**.

(5) Violation of ORS 448.265 is a Class B misdemeanor.

(6) Violation of ORS 468.770 is a Class A misdemeanor.

Section 18a. ORS 448.260 is amended to read:

448.260. (1) Whenever the water supply in a community or public water supply system is not adequate, the administrator may enter an order which:

(a) Restricts the water usage to essential needs;
(b) Prohibits the installation of additional service connections;
(c) Prohibits any extensions of the system; or
(d) Any combination of paragraph (a), (b) or (c) of this subsection.

(2) The order shall set forth the restriction or the prohibition, including but not limited to any time or duration restriction, any specific use restriction and the description of any prohibition.

(3) Any person or governmental unit aggrieved by any order of the administrator issued under subsection (1) of this section may appeal from such order in accordance with the provisions of ORS chapter 183 relating to a contested case. However, notwithstanding subsection (3) of ORS 183.480 relating to a stay of enforcement of an agency decision, any reviewing court before it may stay an order of the administrator shall give due consideration to the public interest in the continued enforcement of such order and may take testimony thereon.

SECTION 19. This Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this Act takes effect on its passage.

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Approved by the Governor June 3, 1975.
Filed in the office of Secretary of State June 3, 1975.

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OREGON LEGISLATIVE ASSEMBLY—1975 REGULAR SESSION

Enrolled

Senate Bill 616

Sponsored by Senators SMITH, THORNE, Representatives PATTERSON, GILMOUR, HANNEMAN, JONES, KULONGOSKI, MAGRUDER, McCRAE, SIMPSON, SUMNER, WALDEN, WILHELMS, WYATT

CHAPTER 691

AN ACT

Relating to community and public water supply systems.

Be It Enacted by the People of the State of Oregon:

SECTION 1. Sections 2 and 3 of this Act are added to and made a part of ORS 448.205 to 448.325.

SECTION 2. In prescribing minimum requirements for the design and construction of community water supply systems and public water supply systems, the division shall take into consideration varying usages and conditions, if any, in different areas or regions of the state.

SECTION 3. (1) In the case of a temporary community water supply system or a public water supply system that will serve users for a period not in excess of five years, the division may allow such variances from design and construction requirements as will not be contrary to the purposes as stated in ORS 448.210.

(2) Systems approved under such variances shall not be operated after the period of time stated in the approved plans and specifications.

Approved by the Governor July 8, 1975.
Filed in the office of Secretary of State July 8, 1975.

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APPENDIX C

NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS

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federal register

WEDNESDAY, DECEMBER 24, 1975

THE NATIONAL ARCHIVES OF THE UNITED STATES • 1934 •

PART IV:

ENVIRONMENTAL PROTECTION AGENCY

■

WATER PROGRAMS

National Interim Primary Drinking Water Regulations

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

[FRL 464-7]

PART 141—NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS

On March 14, 1975, the Environmental Protection Agency (EPA) proposed National Interim Primary Drinking Water Regulations pursuant to sections 1412, 1414, 1415, and 1450 of the Public Health Service Act ("the Act"), as amended by the Safe Drinking Water Act ("SDWA," Pub. L. 93-523), 40 FR 11990. EPA held public hearings on the proposed regulations in Boston, Chicago, San Francisco, and Washington during the month of April. Several thousand pages of comments on the proposed regulations were received and evaluated. In addition, the Agency has received comments and information on the proposed regulations from the National Drinking Water Advisory Council, the Secretary of Health, Education, and Welfare, and from numerous others during meetings with representatives of State agencies, public interest groups and others.

The regulations deal only with the basic legal requirements. Descriptive material will be provided in a guidance manual for use by public water systems and the States.

The purpose of this preamble to the final regulations is to summarize the most significant changes made in the proposed regulations as a result of comments received and the further consideration of available information. A more detailed discussion of the comments and of changes in the proposed regulations is attached as Appendix A.

WATER SYSTEMS COVERED

The Safe Drinking Water Act applies to each "public water system," which is defined in Section 1401(4) of the Act as "a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals." Privately owned as well as publicly owned systems are covered. Service "to the public" is interpreted by EPA to include factories and private housing developments. (See generally, House Report, pp. 16-17.)

The definition of "public water system" proposed in the Interim Primary Drinking Water Regulations sought to explain the meaning of the statutory reference to "regular" service. It was proposed to interpret this term as including service for as much as three months during the year. Because the proposed definition would have excluded many large campgrounds, lodges, and other public accommodations which serve large numbers of tourists but which are open for slightly less than three months each year, the definition in the final version covers systems serving an average of at least twenty-five individuals at least 60 days out of the year. The use of a minimum number of days rather than months also makes clear that a system may qualify as a public water system even if it is not open every day during a given month.

Once "public water system" has been defined, it is necessary to define the two major types of public water systems—those serving residents and those serving transients or intermittent users. The possible health effects of a contaminant in drinking water in many cases are quite different for a person drinking the water for a long period of time than for a person drinking the water only briefly or intermittently. Different regulatory considerations may in some cases apply to systems which serve residents as opposed to systems which serve transients or intermittent users. Accordingly, § 141.2(e) makes clear that all "public water systems" fall within either the category of "community water systems" or the category of "non-community water systems." To make clear which regulatory requirements apply to which type of system, the category covered is specifically indicated throughout the regulations.

The proposed regulations defined a "community water system" as "a public water system which serves a population of which 70 percent or greater are residents." Reliance in the proposed definition on the percentage of water system users who are residents would result in treating some fairly large resort communities with many year-round residents as non-community systems. Therefore, the definition of "community water system" has been changed to cover any system which serves at least 15 service connections used by year-round residents or serves at least 25 year-round residents.

SMALL COMMUNITY WATER SYSTEMS

Many community water systems in the country are quite small. Since it is the intention of the Act to provide basically the same level of health protection to residents of small communities as to residents of large cities, and since a number of advanced water treatment techniques are made feasible only by economies of scale, the cost of compliance with the requirements of the Act may pose a serious problem for many small communities. The regulations seek to recognize the financial problems of small communities by requiring more realistic monitoring for systems serving fewer than 1,000 persons. Variances and exemptions authorized by the Act can also assist in dealing with economic problems of small community systems in appropriate cases, at least temporarily. EPA will provide technical assistance on effective treatment techniques which can be used by small systems.

These methods of dealing with the financial problems of some small community systems may not be sufficient in specific instances to make compliance with all applicable regulatory requirements feasible. EPA is commencing a study of potential problems faced by small community systems in meeting applicable requirements under the Act and these regulations, and, if necessary, will make additional adjustments in the Interim Primary Drinking Water Regulations prior to their effective date.

NON-COMMUNITY SYSTEMS

"Non-community systems" are basically those systems which serve transients. They include hotels, motels, restaurants, campgrounds, service stations, and other public accommodations which have their own water system and which have at least 15 service connections or serve water to a daily average of at least 25 persons. Some schools, factories and churches are also included in this category. It is conservatively estimated that there are over 200,000 non-community water systems in the country. However, it should be recognized that while their number is large, they normally are not the principal source of water for the people they serve.

The regulations as proposed would have applied all maximum contaminant levels to non-community systems as well as to community systems. This approach failed to take into account the fact that the proposed maximum contaminant levels for organic chemicals and most inorganic chemicals were based on the potential health effects of long-term exposure. Those levels are not necessary to protect transients or intermittent users. Therefore, the final regulations provide that maximum contaminant levels for organic chemicals, and for inorganic chemicals other than nitrates, are not applicable to non-community systems. An exception was made for nitrates because they can have an adverse health effect on susceptible infants in a short period of time.

Even without monitoring for organic chemicals or most inorganic chemicals, in the initial stages of implementation of the drinking water regulations, monitoring results from tens of thousands of non-community systems could overwhelm laboratory capabilities and other resources. This could delay effective implementation of the regulations with respect to the community systems which provide the water which Americans drink every day. To avoid this result, non-community systems will be given two years after the effective date of the regulations to commence monitoring. In the meantime, non-community systems which already monitor their water are encouraged to continue to do so, and the States are encouraged to take appropriate measures to test or require monitoring for non-community systems that serve large numbers of people.

Of course, non-community systems which pose a threat to health should be dealt with as quickly as possible. The maximum contaminant levels applicable to non-community water systems therefore will take effect 18 months after promulgation, at the same time as levels applicable to community systems. Inspection and enforcement authority will apply to non-community systems at the same time as to community systems.

SANITARY SURVEYS

EPA encourages the States to conduct sanitary surveys on a systematic basis.

These on-site inspections of water systems are more effective in assuring safe water to the public than individual tests taken in the absence of sanitary surveys. The regulations provide that monitoring frequencies for coliform bacteria can be changed by the entity with primary enforcement responsibility for an individual non-community system, and in certain circumstances for an individual community system, based on the results of a sanitary survey.

Maximum Contaminant Levels

Numerous comments were received by EPA on the substances selected for the establishment of maximum contaminant levels and on the levels chosen. Congress anticipated that the initial Interim Primary Drinking Water Regulations would be based on the Public Health Service Standards of 1962, and this Congressional intent has been followed. Comments received on the various levels did not contain new data sufficient to require the establishment of levels different from those contained in the Public Health Service Standards.

Water Consumption

The maximum contaminant levels are based, directly or indirectly, on an assumed consumption of two liters of water per day. The same assumption was used in the 1962 Standards. This assumption has been challenged because of instances where much higher water consumption rates occur. EPA's justification for using the two-liter figure is that it already represents an above average water or water-based fluid intake. Moreover, while the factor of safety may be somewhat reduced when greater quantities of water are ingested, the maximum contaminant levels based on the two-liter figure provide substantial protection to virtually all consumers. If, as has been suggested, a water consumption rate of eight liters per day is used as the basis for maximum contaminant level, all of the proposed MCL's would have to be divided by four, greatly increasing the monitoring difficulties, and in some cases challenging the sensitivity of accepted analytical procedures. It could be expected, in such a case, that the maximum contaminant levels would be exceeded to a significant degree, and that specialized treatment techniques would be required to order that the contaminant levels would be reduced. The economic impact of a move in this direction would be enormous. It is not technically or economically feasible to base maximum contaminant levels on unusually high consumption rates.

Safety Factors

A question was raised about the fact that different safety factors are contained in various maximum contaminant levels. The levels are not intended to have a uniform safety factor, at least partly because the knowledge of and the nature of the health risks of the various contaminants vary widely. The levels set are the result of experience, evaluation of the available data, and professional judgment. They have withstood the test of time and of professional review. They are being subjected to further review by the National Academy of Sciences in connection with development of data for the Revised Primary Drinking Water Regulations.

MCL's Based on Temperature

A question was also raised as to whether ranges of maximum contaminant levels should be established on the basis of the climate in the area served by the public water system, as was done with fluoride. EPA believes that the use of a temperature scale for fluoride is more appropriate than for other chemicals because of the studies available on the fluoride-temperature relationship and because there is a small margin with fluoride between beneficial levels and levels that cause adverse health effects.

MCL's Deleted

Three proposed maximum contaminant levels have been eliminated in the final regulations because they are not justified by the available data. One of these is carbon chloroform extract (CCE), which is discussed separately below. The others are the proposed levels for the standard bacterial plate count and cyanide. In the case of the plate count, it is believed that the coliform limits contained in the regulations, combined with the turbidity maximum contaminant level, adequately deal with bacterial contamination. However, EPA continues to believe that the standard plate count is a valid indicator of bacteriological quality of drinking water, and recommends that it be used in appropriate cases in conjunction with the coliform tests as an operational tool.

The proposed maximum contaminant level for cyanide was eliminated because the possibility of cyanide contamination can be effectively addressed only by the use of emergency action, such as under Section 1431 of the Act. EPA's 1969 Community Water Supply Study did not reveal a single instance in which cyanide was present in a water system at a level greater than one-thousandth of the level at which cyanide is toxic to humans.

Available data indicate that cyanide will be present in water systems at toxic levels only in the event of an accident, such as a spill from a barge collision. Maximum contaminant levels are not the appropriate vehicle for dealing with such rare, accidental contamination.

Heptachor, heptachlor epoxide and chlordane have also been removed from the list of maximum contaminant levels at least temporarily in view of the pending cancellation and suspension proceedings under the Federal Insecticide, Fungicide and Rodenticide Act involving those pesticides. When the results of these proceedings are available, EPA will again consider whether maximum contaminant levels should be established for those three pesticides.

Sodium and Sulfates

A number of comments were received on the potential health effects of sodium and sulfates. The National Drinking Water Advisory Council has recommended that consideration be given to the monitoring of these constituents, but has not recommended the adoption of maximum contaminant levels because available data do not support the adoption of any specific levels. EPA has requested the National Academy of Sciences to include sodium and sulfates among the contaminants to be studied by NAS, and to include information on the health effects of sodium and sulfates in the report to be made by NAS in December 1976.

Since a number of persons suffer from diseases which are influenced by dietary sodium intake and since there are others who wish to restrict their sodium intake, it is desirable that the sodium content of drinking water be known. Those affected can, by knowing the sodium concentration in their drinking water, make adjustments to their diets or, in extreme cases, seek alternative sources of water to be used for drinking and food preparation. It is recommended that the States institute programs for regular monitoring of the sodium content of drinking water served to the public, and for informing physicians and consumers of the sodium concentration in drinking water.

A relatively high concentration of sulfate in drinking water has little or no known laxative effect on regular users of the water, but transcients using such water sometimes experience a laxative effect. It is recommended that the States institute monitoring programs for sulfates, and that transients be notified if the sulfate content of the water is high. Such notification should include an assessment of the possible physiological effects of consumption of the water.

PCB's and Asbestos

An interagency comment expressed concern for asbestos and PCB's in the environment and noted the need for at least a monitoring requirement, if not for MCL's, for these contaminants. EPA is also concerned, but for the moment lacks sufficient evidence regarding analytical methods, health effects, or occurrence in the environment to establish MCL's. The Agency is conducting research and cooperating in research projects to develop criteria for establishing needed limits as quickly as possible. A monitoring study on a number of organic chemical contaminants, including PCB's, for which MCL's are not being established at this time, will be contained in an organic chemical monitoring regulation that is being promulgated with these regulations. Regarding asbestos, HEW and EPA are sponsoring a number of studies this year at an approximate cost of $16 million to establish health effects, anayltical methods and occurrence.

Point of Measurement

Other comments on maximum contaminant levels focused on the proposed requirement that such levels be tested at the consumer's tap. Concern was expressed over the inability of the public water system to control potential sources of contaminants which are under the control of the consumer.

The promulgated definition of "maximum contaminant level," § 141.2(d), retains the requirement that the maximum contaminant level be measured at the tap except in the case of turbidity, which should be measured at the point of entry to the distribution system. However, the definition has been expanded to make clear that contaminants added to the water by circumstances under the control of the consumer are not the responsibility of the supplier of water, unless the contaminants result from corrosion of piping and plumbing resulting from the quality of the water supplied. It should be noted, however, that this requirement should not be interpreted as to discourage local, aggressive cross connection control measures.

COLIFORM BACTERIA MCL'S

The promulgated MCL's for coliform bacteria are basically the 1962 Public Health Service Standards, with minor refinements and clarifications. However, further changes may be desirable. For example, the MCL's for the membrane filter analytical method do not resolve the question of how many coliform bacteria are assumed to be present in a single highly contaminated sample. Some laboratories assume an upper limit of 50, while others seek to continue to count individual bacteria to a level of 100 or even higher in a single sample. The upper limit assumed will affect the monthly average which is calculated to determine compliance with the MCL's.

Another question relating to the coliform bacteria MCL's is the matter of possible spurious positive samples. As the regulations are written, all routine samples taken to determine compliance with the MCL's must be counted, regardless of the results of analysis of any check samples that may be taken. The reason for this is that bacterial contamination is often intermittent or transient, and as a result negative check samples taken a day or more after a positive sample cannot demonstrate that the positive result was in error. It may be possible, however, to prescribe a means of dealing with spurious positive results without compromising the integrity of the MCL's.

A third question concerning the MCL's for coliform bacteria is the relationship of monthly averages of coliform bacteria levels to monthly percentages of positive samples. For example, the monthly average MCL for the membrane filter method is violated if the monthly average exceeds one coliform bacterium per sample. However, for purposes of determining whether the monthly-percentage-of-positive-samples MCL is violated, a sample is counted as positive only if it contains more than four coliform bacteria. Thus, it is possible, particularly when a relatively small number of samples is taken, for a system to fail the monthly average MCL even when no single sample taken during the month is out of compliance with the limit.

These and other questions concerning the coliform bacteria MCL's will be reviewed further by EPA. If review indicates that changes in the MCL's are desirable, those changes will be made as soon as possible but within 6 months, in time to take effect at the same time as the initial Interim Primary Drinking Water Regulations.

ORGANIC CHEMICALS

The proposed maximum contaminant levels for organic pesticides, other than the three which are the subject of cancellation and suspension proceedings, have been retained. It is anticipated that additional organic pesticides will be added to the regulations if surveys of pesticides in drinking water being conducted by EPA indicate that this is needed.

The proposed regulations also contained a maximum contaminant level for organic chemicals obtained by the carbon chloroform extract (CCE) method. It was anticipated by Congress that organic chemicals would be dealt with primarily in the Revised Primary Drinking Water Regulations because of the paucity of accurate data on the health effects of various organic chemicals, the large number of such chemicals, uncertainities over appropriate treatment techniques, and the need for additional information on the incidence of specific organic chemicals in drinking water supplies. EPA thought that the CCE standard might provide an appropriate means of dealing with organic chemicals as a class pending action on the Revised Primary Regulations.

The CCE standard was originally developed as a test for undesirable tastes and odors in drinking water. As concern developed over the health effects of organic chemicals, the possibility of using CCE as a health standard rather than an esthetic standard was considered.

As pointed out by numerous comments, CCE has many failings as an indicator of health effects of organic chemicals. To begin with, the test obtains information on only a fraction of the total amount of organic chemicals in the water sampled. Furthermore, there is serious question as to the reliability of CCE in identifying those organic chemicals which are most suspected of adverse health effects. In addition, there are no existing data on which a specific level for CCE can be established on a rational basis. To establish a maximum contaminant level under these circumstances would almost certainly do more harm than good. It could give a false sense of security to persons served by systems which are within the established level and a false sense of alarm to persons served by systems which exceed the level. It also would divert resources from efforts to find more effective ways of dealing with the organic chemicals problem.

EPA believes that the intelligent approach to the organic chemicals question is to move ahead as rapidly as possible along two fronts. First, EPA is adopting simultaneously with these regulations a Subpart E of Part 141, containing requirements for organic chemical monitoring pursuant to Sections 1445 and 1450 of the Act.

The regulations require that designated public water systems collect samples of raw and treated water for submission to EPA for organics analysis. EPA will analyze the samples for a number of broad organic parameters, including carbon chloroform extract (CCE), volatile and non-volatile total organic carbon (VTOC and NVTOC), total organic chlorine (TOCl), ultraviolet absorbancy, and fluorescence. In addition, monitoring will be required for probably 21 specific organic compounds. Selection of the specific compounds has been based on the occurrence or likelihood of occurrence in treated water, toxicity data and availability of practical analytical method. Laboratory analyses will be used to evaluate the extent and nature of organic chemical contamination of drinking water, to evaluate the validity of the general organic parameters as surrogates for measures of harmful organic chemicals, and to determine whether there is an adequate basis for establishing maximum contaminant levels for specific organics or groups of organics.

Second, EPA is embarking on an intensive research program to find answers to the following four questions:

1. What are the effects of commonly occurring organic compounds on human health?

2. What analytical procedures should be used to monitor finished drinking water to assure that any Primary Drinking Water Regulations dealing with organics are met?

3. Because some of these organic compounds are formed during water treatment, what changes in treatment practices are required to minimize the formation of these compounds in treated water?

4. What treatment technology must be applied to reduce contaminant levels to concentrations that may be specified in the Primary Drinking Water Regulations?

This research will involve health-effects and epidemiological studies, investigations of analytical methodology, and pilot plant and field studies of organic removal unit processes. Some phases of the research are to be completed by the end of this year, while much of the remainder are to be completed within the next calendar year.

As soon as sufficient information is derived from the monitoring program and related research, the Interim Primary Drinking Water Regulations will be amended so that the organic chemicals problem can be dealt with without delay. The monitoring process will be completed within 1 year.

During the interim period, while satisfactory MCL's for organic contamination in drinking water are being developed, EPA will act in specific cases where appropriate to deal with organic contamination. If the EPA monitoring program reveals serious specific cases of contamination, EPA will work with State and local authorities to identify the source and nature of the problem and to take remedial action. EPA will also aid the States in identifying additional community water supplies that require analysis.

PUBLIC NOTICE

The public notice requirements proposed in § 141.32 did not distinguish between community and non-community public water systems. They would have required that public notice of non-compliance with applicable regulations be made by newspaper, in water bills, and by other media for all public water systems. These requirements are inappropriate and ineffective in the case of most non-community water systems. Those systems principally serve transients who do not receive water bills from the system and who probably are not exposed significantly to the local media. A more effective approach would be to require notice that can inform the transient before he drinks the system's water, and thereby both warn the transient and provide an incentive to the supplier of water to remedy the violation. Accordingly, Section 141.32 as adopted provides that in the case of non-community systems, the entity with primary enforcement responsibility shall require that notice be given in a form and manner that will insure that the public using the public water system is adequately informed.

The proposed public notice requirements also failed to distinguish between different types of violations of the Interim Primary Drinking Water Regulations. Since the urgency and importance of a notice varies according to the nature of the violation involved, § 141.32 as promulgated seeks to match the type of notice required with the type of violation involved. Written notice accompanying a water bill or other direct notice by mail is required for all violations of the regulations, including violations of monitoring requirements, and for the grant of a variance or exemption. In addition, notice by newspaper and notification to radio and television stations is required whenever a maximum contaminant level is exceeded, or when the entity with primary enforcement responsibility requires such broader notice.

QUALITY CONTROL AND TESTING PROCEDURES

Section 1401(1) of the Act defines "primary drinking water regulation" to include "quality control and testing procedures." The promulgated regulations include testing requirements for each maximum contaminant level, including check samples and special samples in appropriate cases. The regulations also specify the procedures to be followed in analyzing samples for each of the maximum contaminant levels. These procedures will be updated from time to time as advances are made in analytical methods. For example, references to "Standard Methods for the Examination of Water and Wastewater" are to the current, 13th, edition, but these references will be changed to cite the 14th edition when it is available in the near future.

A key element of quality control for public water systems is accurate laboratory analysis. Section 141.28 of the regulations provides that analyses conducted for the purpose of determining compliance with maximum contaminant levels must be conducted by a laboratory approved by the entity with primary enforcement responsibility. EPA will develop as soon as possible, in cooperation with the States and other interested parties, criteria and procedures for laboratory certification. A State with primary enforcement responsibility will have a laboratory certified by EPA pursuant to the prescribed criteria and procedures, and in turn will certify laboratories within the State.

Record-keeping requirements and reports to the State also will assist in quality control efforts.

RECORD-KEEPING

Adequate record-keeping is necessary for the proper operation and administration of a public water system. It is also important for providing information to the public, providing appropriate data for inspection and enforcement activities and providing information on which future regulations can be based. Accordingly, a new § 141.33 has been added to the regulations to require that each public water system maintain records of sample analyses and of actions to correct violations of the Primary Drinking Water Regulations.

ECONOMIC AND COST ANALYSIS

A comprehensive economics study has been made of the Interim Primary Drinking Water Regulations. This study estimates the costs of the regulations, evaluates the potential economic impact, and considers possible material and labor shortages. The results of this analysis are summarized here.

Total investment costs to community water systems to achieve compliance with these regulations are estimated to be between $1,050 and $1,765 million. It is estimated that non-community systems will invest an additional $24 million. The range of the estimate is due to uncertainty as to the design flow that will be used in installing treatment facilities. Systems not in compliance will have to consider sizing their new components to reflect average daily flow conditions, or maximum daily flow conditions in cases where system storage is not adequate.

This investment will be spread over several years. Investor-owned systems will bear about one-fourth of these costs, and publicly-owned systems the remainder. It is not anticipated that systems will have difficulty financing these capital requirements.

In annual terms, national costs are expected to be within the following ranges:

	In millions
Capital costs	$146–247
Operations and maintenance	263–263
Monitoring (routine only)	17– 35
Total	$426–545

Although these aggregate figures are large, most water consumers will not be significantly affected. For those users in systems serving 10,000 persons or more, the average annual treatment cost per capita may increase from less than $1.00 for systems requiring disinfection and lead control, to between $15 to $35 for control of turbidity and heavy metal removal. For systems serving less than 100 persons, the average annual per capita costs of disinfection, lead control and fluoride/arsenic removal are estimated to be between $2.10 and $11.80. However, if turbidity control or heavy metal removal were required in a system of this size then costs are expected to range from $52 to $237 per year per capita. EPA is aware of the serious potential economic impact on users in these small systems. However, the legislative history specifies that the regulations should be based on costs that can be reasonably afforded by large metropolitan or regional systems. Further economic evaluation of these systems is being conducted, and realistic options for these small systems are being reviewed. Options that will be under consideration include less costly treatment technologies; formation of regional systems; and use of alternative water sources. Industrial and commercial users, whether providing their own water or using public systems, are not expected to be significantly affected by these regulations.

Possible constraints to the implementation of the interim primary regulations were examined. Although there will be an increase in demand for chemicals, manpower, laboratories, and construction of treatment facilities, it is not anticipated that any of these factors will be a serious obstacle to implementation of these regulations over a reasonable time frame.

For the reasons given above, Chapter 40 of the Code of Federal Regulations is hereby amended by the addition of the following new Part 141. These regulations will take effect 18 months after promulgation.

(It is hereby certified that the economic and inflationary impacts of these regulations have been carefully evaluated in accordance with Executive Order 11821)

Dated: December 10, 1975.

RUSSELL E. TRAIN,
Administrator.

Subpart A—General

Sec.
141.1 Applicability.
141.2 Definitions.
141.3 Coverage.
141.4 Variances and exemptions.
141.5 Siting requirements.
141.6 Effective date.

Subpart B—Maximum Contaminant Levels

141.11 Maximum contaminant levels for inorganic chemicals.
141.12 Maximum contaminant levels for organic chemicals.
141.13 Maximum contaminant levels for turbidity.
141.14 Maximum microbiological contaminant levels.

Subpart C—Monitoring and Analytical Requirements

141.21 Microbiological contaminant sampling and analytical requirements.

Sec.
141.22 Turbidity sampling and analytical requirements.
141.23 Inorganic chemical sampling and analytical requirements.
141.24 Organic chemical sampling and analytical requirements.
141 27 Alternative analytical techniques.
141.28 Approved laboratories.
141.29 Monitoring of consecutive public water systems.

Subpart D—Reporting, Public Notification, and Record-keeping

141.31 Reporting requirements.
141.32 Public notification of variances, exemptions, and non-compliance with regulations.
141.33 Record maintenance.

AUTHORITY: Secs. 1412, 1414, 1445, and 1450 of the Public Health Service Act, 88 Stat. 1660 (42 U.S.C. 300g-1, 300g-3, 300j-4, and 300j-9).

Subpart A—General

§ 141.1 Applicability.

This part establishes primary drinking water regulations pursuant to section 1412 of the Public Health Service Act, as amended by the Safe Drinking Water Act (Pub. L. 93-523); and related regulations applicable to public water systems.

§ 141.2 Definitions.

As used in this part, the term:

(a) "Act" means the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523.

(b) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(c) "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

(d) "Person" means an individual, corporation, company, association, partnership, State, municipality, or Federal agency.

(e) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water system is either a "community water system" or a "non-community water system."

(i) "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(ii) "Non-community water system" means a public water system that is not a community water system.

(f) "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(g) "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

(h) "State" means the agency of the State government which has jurisdiction over public water systems. During any period when a State does not have primary enforcement responsibility pursuant to Section 1413 of the Act, the term "State" means the Regional Administrator, U.S. Environmental Protection Agency.

(i) "Supplier of water" means any person who owns or operates a public water system.

§ 141.3 Coverage.

This part shall apply to each public water system, unless the public water system meets all of the following conditions:

(a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;

(c) Does not sell water to any person; and

(d) Is not a carrier which conveys passengers in interstate commerce.

§ 141.4 Variances and exemptions.

Variances or exemptions from certain provisions of these regulations may be granted pursuant to Sections 1415 and 1416 of the Act by the entity with primary enforcement responsibility. Provisions under Part 142, *National Interim Primary Drinking Water Regulations Implementation*—subpart E (Variances) and subpart F (Exemptions)—apply where EPA has primary enforcement responsibility.

§ 141.5 Siting requirements.

Before a person may enter into a financial commitment for or initiate construction of a new public water system or increase the capacity of an existing public water system, he shall notify the State and, to the extent practicable, avoid locating part or all of the new or expanded facility at a site which:

(a) Is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a breakdown of the public water system or a portion thereof; or

(b) Except for intake structures, is within the floodplain of a 100-year flood or is lower than any recorded high tide where appropriate records exist. The U.S. Environmental Protection Agency will not seek to override land use decisions affecting public water systems siting which are made at the State or local government levels.

§ 141.6 Effective date.

The regulations set forth in this part shall take effect 18 months after the date of promulgation.

Subpart B—Maximum Contaminant Levels

§ 141.11 Maximum contaminant levels for inorganic chemicals.

(a) The maximum contaminant level for nitrate is applicable to both community water systems and non-community water systems. The levels for the other inorganic chemicals apply only to community water systems. Compliance with maximum contaminant levels for inorganic chemicals is calculated pursuant to § 141.23.

(b) The following are the maximum contaminant levels for inorganic chemicals other than fluoride:

Contaminant	*Level, milligrams per liter*
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.
Selenium	0.01
Silver	0.05

(c) When the annual average of the maximum daily air temperatures for the location in which the community water system is situated is the following, the maximum contaminant levels for fluoride are:

Temperature Degrees Fahrenheit	Degrees Celsius	Level, milligrams per liter
53.7 and below	12.0 and below	2.4
53.8 to 58.3	12.1 to 14.6	2.2
58.4 to 63.8	14.7 to 17.6	2.0
63.9 to 70.6	17.7 to 21.4	1.8
70.7 to 79.2	21.5 to 26.2	1.6
79.3 to 90.5	26.3 to 32.5	1.4

§ 141.12 Maximum contaminant levels for organic chemicals.

The following are the maximum contaminant levels for organic chemicals. They apply only to community water systems. Compliance with maximum contaminant levels for organic chemicals is calculated pursuant to § 141.24.

	Level, milligrams per liter
(a) Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro-6,7-epoxy-1,4, 4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8 - dimethano naphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-Trichloro-2, 2 - bis [p-methoxyphenyl] ethane).	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67-69 percent chlorine).	0.005

(b) Chlorophenoxys:	
2,4 - D, (2,4-Dichlorophenoxyacetic acid).	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid).	0.01

§ 141.13 Maximum contaminant levels for turbidity.

The maximum contaminant levels for turbidity are applicable to both community water systems and non-community water systems using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

(a) One turbidity unit (TU), as determined by a monthly average pursuant to § 141.22, except that five or fewer turbidity units may be allowed if the supplier of water can demonstrate to the State that the higher turbidity does not do any of the following:

(1) Interfere with disinfection;

(2) Prevent maintenance of an effective disinfectant agent throughout the distribution system; or

(3) Interfere with microbiological determinations.

(b) Five turbidity units based on an average for two consecutive days pursuant to § 141.22.

§ 141.14 Maximum microbiological contaminant levels.

The maximum contaminant levels for coliform bacteria, applicable to community water systems and non-community water systems, are as follows:

(a) When the membrane filter technique pursuant to § 141.21(a) is used, the number of coliform bacteria shall not exceed any of the following:

(1) One per 100 milliliters as the arithmetic mean of all samples examined per month pursuant to § 141.21 (b) or (c);

(2) Four per 100 milliliters in more than one sample when less than 20 are examined per month; or

(3) Four per 100 milliliters in more than five percent of the samples when 20 or more are examined per month.

(b)(1) When the fermentation tube method and 10 milliliter standard portions pursuant to § 141.21(a) are used, coliform bacteria shall not be present in any of the following:

(i) more than 10 percent of the portions in any month pursuant to § 141.21 (b) or (c);

(ii) three or more portions in more than one sample when less than 20 samples are examined per month; or

(iii) three or more portions in more than five percent of the samples when 20 or more samples are examined per month.

(2) When the fermentation tube method and 100 milliliter standard portions pursuant to § 141.21(a) are used, coliform bacteria shall not be present in any of the following:

(i) more than 60 percent of the portions in any month pursuant to § 141.21 (b) or (c);

(ii) five portions in more than one sample when less than five samples are examined per month; or

(iii) five portions in more than 20 percent of the samples when five or more samples are examined per month.

(c) For community or non-community systems that are required to sample at a rate of less than 4 per month, compliance with paragraphs (a), (b)(1), or (b)(2) of this section shall be based upon sampling during a 3 month period, except that, at the discretion of the State, compliance may be based upon sampling during a one-month period.

Subpart C—Monitoring and Analytical Requirements

§ 141.21 Microbiological contaminant sampling and analytical requirements.

(a) Suppliers of water for community water systems and non-community water systems shall analyze for coliform bacteria for the purpose of determining compliance with § 141.14. Analyses shall be conducted in accordance with the analytical recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp. 662–688, except that a standard sample size shall be employed. The standard sample used in the membrane filter procedure shall be 100 milliliters. The standard sample used in the 5 tube most probable number (MPN) procedure (fermentation tube method) shall be 5 times the standard portion. The standard portion is either 10 milliliters or 100 milliliters as described in § 141.14 (b) and (c). The samples shall be taken at points which are representative of the conditions within the distribution system.

(b) The supplier of water for a community water system shall take coliform density samples at regular time intervals, and in number proportionate to the population served by the system. In no event shall the frequency be less than as set forth below:

Population served:	*Minimum number of samples per month*
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 9,400	10
9,401 to 10,300	11
10,301 to 11,100	12
11,101 to 12,000	13
12,001 to 12,900	14
12,901 to 13,700	15
13,701 to 14,600	16
14,601 to 15,500	17
15,501 to 16,300	18
16,301 to 17,200	19
17,201 to 18,100	20
18,101 to 18,900	21
18,901 to 19,800	22
19,801 to 20,700	23
20,701 to 21,500	24
21,501 to 22,300	25
22,301 to 23,200	26
23,201 to 24,000	27
24,001 to 24,900	28
24,901 to 25,000	29
25,001 to 28,000	30
28,001 to 33,000	35
33,001 to 37,000	40
37,001 to 41,000	45
41,001 to 46,000	50
46,001 to 50,000	55
50,001 to 54,000	60
54,001 to 59,000	65
59,001 to 64,000	70
64,001 to 70,000	75
70,001 to 76,000	80
76,001 to 83,000	85
83,001 to 90,000	90
90,001 to 96,000	95
96,001 to 111,000	100
111,001 to 130,000	110
130,001 to 160,000	120
160,001 to 190,000	130
190,001 to 220,000	140
220,001 to 250,000	150
250,001 to 290,000	160
290,001 to 320,000	170
320,001 to 360,000	180
360,001 to 410,000	190
410,001 to 450,000	200
450,001 to 500,000	210
500,001 to 550,000	220
550,001 to 600,000	230
600,001 to 660,000	240
660,001 to 720,000	250
720,001 to 780,000	260
780,001 to 840,000	270
840,001 to 910,000	280
910,001 to 970,000	290
970,001 to 1,050,000	300
1,050,001 to 1,140,000	310
1,140,001 to 1,230,000	320
1,230,001 to 1,320,000	330
1,320,001 to 1,420,000	340
1,420,001 to 1,520,000	350
1,520,001 to 1,630,000	360
1,630,001 to 1,730,000	370
1,730,001 to 1,850,000	380
1,850,001 to 1,970,000	390
1,970,001 to 2,060,000	400
2,060,001 to 2,270,000	410
2,270,001 to 2,510,000	420
2,510,001 to 2,750,000	430
2,750,001 to 3,020,000	440
3,020,001 to 3,320,000	450
3,320,001 to 3,620,000	460
3,620,001 to 3,960,000	470
3,960,001 to 4,310,000	480
4,310,001 to 4,690,000	490
4,690,001 or more	500

Based on a history of no coliform bacterial contamination and on a sanitary survey by the State showing the water system to be supplied solely by a protected ground water source and free of sanitary defects, a community water system serving 25 to 1,000 persons, with written permission from the State, may reduce this sampling frequency except that in no case shall it be reduced to less than one per quarter.

(c) The supplier of water for a non-community water system shall sample for coliform bacteria in each calendar quarter during which the system provides water to the public. Such sampling shall begin within two years after the effective date of this part. If the State, on the basis of a sanitary survey, determines that some other frequency is more appropriate, that frequency shall be the frequency required under these regulations. Such frequency shall be confirmed or changed on the basis of subsequent surveys.

(d)(1) When the coliform bacteria in a single sample exceed four per 100 milliliters (§ 141.14(a)), at least two consecutive daily check samples shall be collected and examined from the same sampling point. Additional check samples shall be collected daily, or at a frequency established by the State, until the results obtained from at least two consecutive check samples show less than one coliform bacterium per 100 milliliters.

(2) When coliform bacteria occur in three or more 10 ml portions of a single sample (§ 141.14(b)(1)), at least two consecutive daily check samples shall be collected and examined from the same sampling point. Additional check samples shall be collected daily, or at a frequency established by the State, until the results obtained from at least two consecutive check samples show no positive tubes.

(3) When coliform bacteria occur in all five of the 100 ml portions of a single sample (§ 141.14(b)(2)), at least two daily check samples shall be collected and examined from the same sampling point. Additional check samples shall be collected daily, or at a frequency established by the State, until the results obtained from at least two consecutive check samples show no positive tubes.

(4) The location at which the check samples were taken pursuant to paragraphs (d) (1), (2), or (3) of this section shall not be eliminated from future sampling without approval of the State. The results from all coliform bacterial analyses performed pursuant to this subpart, except those obtained from check samples and special purpose samples, shall be used to determine compliance with the maximum contaminant level for coliform bacteria as established in § 141.14. Check samples shall not be included in calculating the total number of samples taken each month to determine compliance with § 141.21 (b) or (c).

(e) When the presence of coliform bacteria in water taken from a particular sampling point has been confirmed by any check samples examined as directed in paragraphs (d) (1), (2), or (3) of this section, the supplier of water shall report to the State within 48 hours.

(f) When a maximum contaminant level set forth in paragraphs (a), (b) or (c) of § 141.14 is exceeded, the supplier of water shall report to the State and notify the public as prescribed in § 141.31 and § 141.32.

(g) Special purpose samples, such as those taken to determine whether disinfection practices following pipe placement, replacement, or repair have been sufficient, shall not be used to determine compliance with § 141.14 or § 141.21 (b) or (c).

(h) A supplier of water of a community water system or a non-community water system may, with the approval of the State and based upon a sanitary survey, substitute the use of chlorine residual monitoring for not more than 75 percent of the samples required to be taken by paragraph (b) of this section, *Provided*, That the supplier of water takes chlorine residual samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample. There shall be at least daily determinations of chlorine residual. When the supplier of water exercises the option provided in this paragraph (h) of this section, he shall maintain no less than 0.2 mg/l free chlorine throughout the public water distribution system. When a particular sampling point has been shown to have a free chlorine residual less than 0.2 mg/l, the water at that location shall be retested as soon as practicable and in any event within one hour. If the original analysis is confirmed, this fact shall be reported to the State within 48 hours. Also, if the analysis is confirmed, a sample for coliform bacterial analysis must be collected from that sampling point as soon as practicable and preferably within one hour, and the results of such analysis reported to the State within 48 hours after the results are known to the supplier of water. Analyses for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater," 13th Ed., pp. 129-132. Compliance with the maximum contaminant levels for coliform bacteria shall be determined on the monthly mean or quarterly mean basis specified in § 141.14, including those samples taken as a result of failure to maintain the required chlorine residual level. The State may withdraw its approval of the use of chlorine residual substitution at any time.

§ 141.22 Turbidity sampling and analytical requirements.

(a) Samples shall be taken by suppliers of water for both community water systems and non-community water systems at a representative entry point(s) to the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with § 141.13. The measurement shall be made by the Nephelometric Method in accordance with the recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp. 350-353, or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C 20460, 1974.

(b) If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the State within 48 hours. The repeat sample shall be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds 5 TU, the supplier of water shall report to the State and notify the public as directed in § 141.31 and § 141.32.

(c) Sampling for non-community water systems shall begin within two years after the effective date of this part.

(d) The requirements of this § 141.22 shall apply only to public water systems which use water obtained in whole or in part from surface sources.

§ 141.23 Inorganic chemical sampling and analytical requirements.

(a) Analyses for the purpose of determining compliance with § 141.11 are required as follows:

(1) Analyses for all community water systems utilizing surface water sources shall be completed within one year following the effective date of this part. These analyses shall be repeated at yearly intervals.

(2) Analyses for all community water systems utilizing only ground water sources shall be completed within two years following the effective date of this part. These analyses shall be repeated at three-year intervals.

(3) For non-community water systems, whether supplied by surface or ground water sources, analyses for nitrate shall be completed within two years following the effective date of this part. These analyses shall be repeated at intervals determined by the State.

(b) If the result of an analysis made pursuant to paragraph (a) indicates that the level of any contaminant listed in § 141.11 exceeds the maximum contaminant level, the supplier of water shall report to the State within 7 days and initiate three additional analyses at the same sampling point within one month.

(c) When the average of four analyses made pursuant to paragraph (b) of this section, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall notify the State pursuant to § 141.31 and give notice to the public pursuant to § 141.32. Monitoring after public notification shall be at a frequency designated by the State and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(d) The provisions of paragraphs (b) and (c) of this section notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of the mean of two analyses. When a level exceeding the maximum contaminant level for nitrate is found, a second analysis shall be initiated within 24 hours, and if the mean of the two analyses exceeds the maximum contaminant level, the supplier of water shall report his findings to the State pursuant to § 141.31 and shall notify the public pursuant to § 141.32.

(e) For the initial analyses required by paragraph (a)(1), (2) or (3) of this section, data for surface waters acquired within one year prior to the effective date and data for ground waters acquired within 3 years prior to the effective date of this part may be substituted at the discretion of the State.

(f) Analyses conducted to determine compliance with § 141.11 shall be made in accordance with the following methods.

(1) Arsenic—Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 95-96, Environ

mental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(2) Barium—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 97–98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(3) Cadmium—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 101–103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974

(4) Chromium—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 105–106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(5) Lead—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 112–113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(6) Mercury—Flameless Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 118–126, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(7) Nitrate—Brucine Colorimetric Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 461–464, or Cadmium Reduction Method, "Methods for Chemical Analysis of Water and Wastes," pp. 201–206, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(8) Selenium—Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," p. 145, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(9) Silver—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater", 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes", p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(10) Fluoride—Electrode Method, "Standard Methods for the Examination of Water and Wastewater", 13th Edition, pp. 172–174, or "Methods for Chemical Analysis of Water and Wastes," pp. 65–67, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974, or Colorimetric Method with Preliminary Distillation, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 171–172 and 174–176, or "Methods for Chemical Analysis of Water and Wastes," pp. 59–60, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

§ 141.24 Organic chemical sampling and analytical requirements.

(a) An analysis of substances for the purpose of determining compliance with § 141.12 shall be made as follows:

(1) For all community water systems utilizing surface water sources, analyses shall be completed within one year following the effective date of this part. Samples analyzed shall be collected during the period of the year designated by the State as the period when contamination by pesticides is most likely to occur. These analyses shall be repeated at intervals specified by the State but in no event less frequently than at three year intervals.

(2) For community water systems utilizing only ground water sources, analyses shall be completed by those systems specified by the State.

(b) If the result of an analysis made pursuant to paragraph (a) of this section indicates that the level of any contaminant listed in § 141.12 exceeds the maximum contaminant level, the supplier of water shall report to the State within 7 days and initiate three additional analyses within one month.

(c) When the average of four analyses made pursuant to paragraph (b) of this section, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall report to the State pursuant to § 141.31 and give notice to the public pursuant to § 141.32. Monitoring after public notification shall be at a frequency designated by the State and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(d) For the initial analysis required by paragraph (a) (1) and (2) of this section, data for surface water acquired within one year prior to the effective date of this part and data for ground water acquired within three years prior to the effective date of this part may be substituted at the discretion of the State.

(e) Analyses made to determine compliance with § 141.12(a) shall be made in accordance with "Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973.

(f) Analyses made to determine compliance with § 141.12(b) shall be conducted in accordance with "Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973.

§ 141.27 Alternative analytical techniques.

With the written permission of the State, concurred in by the Administrator of the U.S. Environmental Protection Agency, an alternative analytical technique may be employed. An alternative technique shall be acceptable only if it is substantially equivalent to the prescribed test in both precision and accuracy as it relates to the determination of compliance with any maximum contaminant level. The use of the alternative analytical technique shall not decrease the frequency of monitoring required by this part.

§ 141.28 Approved laboratories.

For the purpose of determining compliance with § 141.21 through § 141.27, samples may be considered only if they have been analyzed by a laboratory approved by the State except that measurements for turbidity and free chlorine residual may be performed by any person acceptable to the State.

§ 141.29 Monitoring of consecutive public water systems.

When a public water system supplies water to one or more other public water systems, the State may modify the monitoring requirements imposed by this part to the extent that the interconnecion of the sysems jusifies treating them as a single system for monitoring purposes. Any modified monitoring shall be conducted pursuant to a schedule specified by the State and concurred in by the Administrator of the U.S. Environmental Protection Agency.

Subpart D—Reporting, Public Notification and Record Keeping

§ 141.31 Reporting requirements.

(a) Except where a shorter reporting period is specified in this part, the supplier of water shall report to the State within 40 days following a test, measurement or analysis required to be made by this part, the results of that test, measurement or analysis.

(b) The supplier of water shall report to the State within 48 hours the failure to comply with any primary drinking water regulation (including failure to comply with monitoring requirements) set forth in this part.

(c) The supplier of water is not required to report analytical results to the State in cases where a State laboratory performs the analysis and reports the results to the State office which would normally receive such notification from the supplier.

§ 141.32 Public notification.

(a) If a community water system fails to comply with an applicable maximum contaminant level established in Subpart B, fails to comply with an applicable testing procedure established in Subpart C of this part, is granted a variance or an exemption from an applicable maximum contaminant level, fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption, or fails to perform any monitoring required pursuant to Section 1445 (a) of the Act, the supplier of water shall notify persons served by the system of the failure or grant by inclusion of a notice in the first set of water bills of the system issued after the failure or grant and in any event by written notice within three months. Such notice shall be repeated at least once every three months so long as the system's failure continues or the variance or exemption remains in effect. If the system issues water bills less frequently than quarterly, or does not issue water bills, the notice shall be made by or supplemented by another form of direct mail.

(b) If a community water system has failed to comply with an applicable maximum contaminant level, the supplier of water shall notify the public of such failure, in addition to the notification required by paragraph (a) of this section, as follows:

(1) By publication on not less than three consecutive days in a newspaper or newspapers of general circulation in the area served by the system. Such notice shall be completed within fourteen days after the supplier of water learns of the failure.

(2) By furnishing a copy of the notice to the radio and television stations serving the area served by the system. Such notice shall be furnished within seven days after the supplier of water learns of the failure.

(c) If the area served by a community water system is not served by a daily newspaper of general circulation, notification by newspaper required by paragraph (b) of this section shall instead be given by publication on three consecutive weeks in a weekly newspaper of general circulation serving the area. If no weekly or daily newspaper of general circulation serves the area, notice shall be given by posting the notice in post offices within the area served by the system.

(d) If a non-community water system fails to comply with an applicable maximum contaminant level established in Subpart B of this part, fails to comply with an applicable testing procedure established in Subpart C of this part, is granted a variance or an exemption from an applicable maximum contaminant level, fails to comply with the requirement of any schedule prescribed pursuant to a variance or exemption or fails to perform any monitoring required pursuant to Section 1445(a) of the Act, the supplier of water shall given notice of such failure or grant to the persons served by the system. The form and manner of such notice shall be prescribed by the State, and shall insure that the public using the system is adequately informed of the failure or grant.

(e) Notices given pursuant to this section shall be written in a manner reasonably designed to inform fully the users of the system. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, when appropriate, a clear statement that a primary drinking water regulation has been violated and any preventive measures that should be taken by the public. Where appropriate, or where designated by the State, bilingual notice shall be given. Notices may include a balanced explanation of the significance or seriousness to the public health of the subject of the notice, a fair explanation of steps taken by the system to correct any problem and the results of any additional sampling.

(f) Notice to the public required by this section may be given by the State on behalf of the supplier of water.

(g) In any instance in which notification by mail is required by paragraph (a) of this section but notification by newspaper or to radio or television stations is not required by paragraph (b) of this section, the State may order the supplier of water to provide notification by newspaper and to radio and television stations when circumstances make more immediate or broader notice appropriate to protect the public health.

§ 141.33 Record maintenance.

Any owner or operator of a public water system subject to the provisions of this part shall retain on its premises or at a convenient location near its premises the following records:

(a) Records of bacteriological analyses made pursuant to this part shall be kept for not less than 5 years. Records of chemical analyses made pursuant to this part shall be kept for not less than 10 years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

(1) The date, place, and time of sampling, and the name of the person who collected the sample;

(2) Identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample or other special purpose sample;

(3) Date of analysis;

(4) Laboratory and person responsible for performing analysis;

(5) The analytical technique/method used; and

(6) The results of the analysis.

(b) Records of action taken by the system to correct violations of primary drinking water regulations shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

(c) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by any local, State or Federal agency, shall be kept for a period not less than 10 years after completion of the sanitary survey involved.

(d) Records concerning a variance or exemption granted to the system shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

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PART II

ENVIRONMENTAL PROTECTION AGENCY

State Public Water System

Supervision Program Grants

and

National Interim Primary Drinking Water Regulations

Implementation

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 468-2]

PART 35—STATE AND LOCAL ASSISTANCE

State Public Water System Supervision Program Grants

On August 7, 1975, the Environmental Protection Agency (EPA) proposed State Public Water System Supervision Program Grant Regulations pursuant to Sections 1443 and 1450 of the Public Health Service Act ("the Act") as amended by the Safe Drinking Water Act ("SDWA," P.L. 93-523) 40 FR 33224, EPA held public hearings on the proposed regulations in San Francisco and Washington, D.C. during September. Comments have been received from the National Drinking Water Advisory Council, the Conference of State Sanitary Engineers and many State water supply agencies, the Environmental Defense Fund, the Citizen's Drinking Water Coalition and the League of Women Voters.

This preamble to the final regulations summarizes some of the significant issues discussed in the comments. A more detailed discussion of the comments is attached as Appendix A.

Regulation format. The grant regulations have been restructured to produce a more logical arrangement of sections. This new format is easier to follow and will make the regulations easier to understand. This change in itself does not produce any substantive changes in meaning to the regulations. Substantive changes are discussed below and in Appendix A to the grant regulations.

Allocation formula. Proposed § 35.610 (now § 35.605) allotted available grant funds among the States on the basis of population (30 percent weight factor), land area (10 percent weight factor) and number of water systems identified on EPA inventory forms as serving communities, company towns, mobile home parks or institutions (60 percent weight factor). Sixteen comments were received on the proposed allocation formula, ten of them in favor of the proposal.

It has been decided to use the proposed allocation formula, with some minor language changes. As indicated in the preamble to the proposed regulations, current inventory information on public water systems, particularly non-community systems, is not as complete or as accurate as could be desired. The best available information on water system inventories is the data supplied to EPA by the States on systems serving communities, company towns, mobile home parks or institutions. The Agency plans to revise the allocation formula when new inventory data become available in the future.

Responsibility for laboratory costs. The proposed regulations listed the operation of State laboratory facilities as one of the program elements for which grant funds can be spent. The preamble to the proposed regulations pointed out this element authorized the use of grant funds to analyze routine monitoring samples for public water systems without charge, or with a charge below the State's cost. A number of comments were received on this issue, some supporting the proposal not to restrict the use of grant funds for laboratory operations and others favoring a restriction against routine analysis for public water systems.

As indicated in the discussion of eligible costs in the preamble to the proposed grant regulations, 40 FR 33225, EPA believes that routine monitoring should become the responsibility of public water systems. Some States provide this monitoring service for some systems, especially systems serving small communities. EPA believes that such costs should be transferred to the public water systems as quickly as feasible. However, no limitation on the use of grant funds for routine monitoring is being included in the grant regulations. If experience later indicates that a restriction is desirable, States which provide routine sample analysis for public water systems will be given ample time to phase out their programs or find additional funding.

Public participation. The Agency received a number of comments urging the adoption of additional public participation requirements in the Drinking Water Implementation Regulations and in the Grant Regulations. As discussed in the preamble to the Implementation Regulations, a number of changes have been made in those regulations to facilitate public participation in State drinking water programs and in EPA hearings affecting State programs and individual public water systems. In the Grant Regulations, a new program element has been added, § 35.626-1(j), to make clear that grant funds may be used to encourage, and to respond to, informed public involvement in the planning and conduct of the State program.

One suggestion on public participation which the Agency has not accepted is the suggestion that a State be required to have a public hearing or particular type of public participation in the preparation of each year's grant application. Although EPA urges the States to encourage full public participation in the development of their State programs, to impose a specific requirement with respect to grant applications would be inconsistent with the concept of allowing the States flexibility in developing grant applications within the context of broad Federal requirements.

State program grants. Section 35.613 (b) of the proposed regulations provided that no grant could be made to a State for any fiscal year subsequent to the fiscal year of the State's first grant unless the State had assumed and was maintaining primary enforcement responsibility. It was pointed out that the Safe Drinking Water Act does not prohibit the award of a second program grant to a State within 12 months of the first grant award, even if the State does not have primacy at that time. The Agency concurs with this observation and believes that it will provide added flexibility for the implementation of State programs. The final regulations have been revised to permit the second award. This will help to assure that there will not be an unfunded gap between the first and second grant and allow States to take advantage of their 1977 legislative sessions, as applicable, to acquire the necessary statutory authority for primacy. The additional language makes clear that in order to qualify for the second award, a State must demonstrate that it is moving toward early assumption of primacy.

The Agency has received $7.5 million in program grant funds for Fiscal Year 1976. A discussion of the costs of State drinking water programs is contained in the preamble and Appendix B to the Drinking Water Implementation Regulations, promulgated concurrently with these grant regulations.

Comments. This Subchapter will be amended from time to time to establish new or improved grant policies and procedures to simplify and abbrevate grant application procedures, to simplify and standardize grant conditions and related requirements, to include or provide for statutory changes and to improve Agency and grantee administration of grants. Therefore, public comment is solicited on a continuous basis and may be addressed to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460.

For the reasons given above, Chapter 40 of the Code of Federal Regulations is hereby amended by adding the following new sections to Part 35. The effective date of these new regulations is January 20, 1976.

Dated: December 24, 1975.

RUSSELL E. TRAIN,
Administrator.

The following new §§ 35.600 through 35.630 are added to Subpart B of 40 CFR Part 35.

GRANTS FOR STATE PUBLIC WATER SYSTEM SUPERVISION PROGRAMS

Sec.
35.600 Scope and Purpose.
35.603 Definitions.
35.605 Determination of Allotments.
35.605-1 Notification of Allotments and Reallotments.
35.607 Rate of Federal Assistance.
35.611 Application for Grant.
35.611-1 State Program Plan Grant Submission.
35.613 Limitation on Grant Award.
35.620 Allowable Costs.
35.622 Budget Period.
35.624 Reduction of Grant Amount.
35.626 State Program Plan.
35.626-1 Program Elements of a Public Water System Supervision Program.
35.626-2 Regional Administrator's Action on Grant Application.
35.628 Program Limitations.
35.630 Assignment of Personnel.

AUTHORITY: Secs. 1443 and 1450 of P.L. 93-523, 88 Stat. 1660 (42 U.S.C. 300j-2 and 300j-9).

Grants for State Public Water System Supervision Programs

§ 35.600 Scope and Purpose.

Sections 35.600 through 35.630 establish regulations and procedures for providing program grant funds to the States for the development and administration of public water system supervision programs as authorized by Section 1443(a) of the Public Health Service Act. These regulations are intended to foster development of State program plans and programs to assist in implementing Title XIV of the Act (added by the Safe Drinking Water Act). This subpart supplements EPA General Grant Regulations and procedures set forth in Part 30 of this chapter.

§ 35.603 Definitions.

As used in this part, and except as otherwise specifically provided:

(a) "Act" means the Public Health Service Act.

(b) "Allotment" means the sum reserved for each State from funds appropriated by Congress. The allotment represents the maximum amount of funds potentially available to each State from each annual appropriation.

(c) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(d) "Public water system supervision program" means a program for the adoption and enforcement of drinking water regulations which are no less stringent than the national primary drinking water regulations and for keeping records and making reports required to be made by States with primary enforcement responsibility.

(e) "Sanitary survey" means an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for purposes of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(f) "State" means one of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, or the Trust Territory of the Pacific Islands.

(g) "State primary drinking water regulation" means a drinking water regulation of a State which is comparable to a national primary drinking water regulation contained in Part 141 of this chapter.

(h) "State program grant" means the award of Federal assistance to a State from its allotment to assist in developing or carrying out a public water system supervision program.

§ 35.605 Determination of Allotments.

Funds appropriated in each fiscal year will be allotted as follows:

(a) The initial allotment will be established on the basis of the following weighted factors:

(1) The population of each State in proportion to the total population of all States (weight factor: 30%). Population statistics will be drawn from the 1970 census, Tables 4 and 11 of the 1974 Statistical Abstract of the United States.

(2) The land area of each State in proportion to the total land area of all States (weight factor: 10%). Land area statistics will be drawn from Table 290 of the 1974 Statistical Abstract of the United States.

(3) Number of public water systems in each State in proportion to the number of such systems in all States (weight factor: 60%). Water systems statistics will be drawn from the Inventory of Public Water Systems maintained by the Agency based on input from the States, and for which the predominant service area characteristic has been reported to be at least one of the following:

(i) Community,
(ii) Company town,
(iii) Mobile home park, or
(iv) Institution.

For Fiscal Year 76 grants the number of public water systems for each State will be determined from inventory data which has been submitted to EPA on or before August 1, 1975.

(b) Initial allotments established for the States based on the weighted ratios in (a) will be adjusted as follows:

(1) State allotments (except for Guam, American Samoa, and the Virgin Islands) shall not be less than one percent of the appropriation.

(2) Allotments for Guam, American Samoa, and the Virgin Islands shall not be less than one-third of one percent of the appropriation.

(c) The total increase in State allotments resulting from the application of paragraph (b) of this section shall be offset by an equivalent total decrease in the initial allotment to the other States. This decrease in a State's initial allotment will be in proportion to the amount the State's initial allotment exceeded the one percent or one-third of one percent minimum.

(d) The allotted amounts will be rounded to the nearest hundred dollars.

§ 35.605–1 Notification of Allotments and Reallotments.

(a) Each year, within thirty days after the President delivers his budget to Congress, the Administrator will issue to each Regional Administrator a tentative regional allocation (planning target) for the fiscal year. The tentative State allotment shall be promptly communicated to each State by the Regional Administrator. This tentative allocation (planning target) will be based on the amount of funds requested in the President's budget for this purpose in the next fiscal year.

(b) As soon as practicable after funds are appropriated, the Administrator will issue to each Regional Administrator a final regional allowance for State allotments from funds appropriated for that fiscal year. This final allotment shall be promptly communicated to each State by the Regional Administrator.

(c) As soon as practicable but in no event later than 180 days prior to the end of the Federal Fiscal Year, the Administrator will reallot on a national basis among the States which have already received grants, all funds unobligated by the Agency except that the Administrator will establish a different date for Fiscal Year 1976. The unobligated funds will be allotted on the basis of each such State's allocation factor compared to the sum of the allocation factors for all such States. The funds will be awarded to the States which can demonstrate a need for the additional funds.

(d) Funds remaining unobligated 90 days prior to the end of the fiscal year from funds reallotted under § 35.605–1 (c) and other funds made available by reduction of grant amounts, shall be available within the Region for supplementary awards to other grantees except that the Administrator will establish a different date for Fiscal Year 1976.

§ 35.607 Rate of Federal Assistance.

The actual amount of each State grant, which shall not exceed the State's allotment, shall be determined at the time of the grant award by the Regional Administrator. Federal funds can not exceed 75% of the eligible cost of the State's public water system supervision program as described by § 35.626.

§ 35.611 Application for Grant.

States wishing to make application for a program grant shall comply with all applicable requirements set forth in Part 30 of this chapter.

(a) All States applying for program grants shall comply with all applicable requirements of Office of Management and Budget (OMB) Circular A–95, pursuant to § 30.305 of this chapter.

(b) Applications shall be made to EPA on such forms as the Administrator may prescribe pursuant to § 30.315 of this chapter.

§ 35.611–1 State Program Plan/Grant Submission.

Each State applying for a program grant shall:

(a) Develop an annual program (Part IV of the grant application) in accordance with § 35.626.

(b) For Fiscal Year 1976, submit an application to the Regional Administrator no later than April 1, 1976.

(c) The application for an initial grant shall include, in addition to the other submissions requested by this subpart, a letter from the chief elected or appointed officer of the State, stating whether the State has, or intends to establish, a public water system supervision program. The letter should designate the State agency to receive the grant and to be responsible for conducting the public water system supervision program. The letter should also affirm the State's intent to assume within one year from the approval of the initial grant primary enforcement responsibility in accordance with the requirements of Part 142, Subpart B of this chapter.

(d) For Fiscal Year 1977, or any later Fiscal Year submit a preliminary (draft) plan to the Regional Administrator no later than 90 days prior to the start of the Federal Fiscal Year.

(e) For Fiscal Year 1977, or any later Fiscal Year submit an application which includes the annual State program plan submission for grant award to the Regional Administrator no later than 30 days prior to the start of the Federal Fiscal Year.

§ 35.613 Limitation on Grant Award.

(a) Notwithstanding any other provision of this part, the Regional Administrator may not approve an application of a State for its initial grant to carry out a public water system supervision program unless he determines that the State (1) has established or will establish within one year from the effective date of the grant a public water system supervision program, and (2) will within that one year, assume primary enforcement responsibility for public water systems within the State. (See §§ 142.10 through 142.16 of this chapter.)

(b) Notwithstanding any other provision of this part, no grant may be made to a State for any period beginning more than 12 months after the date of approval of the State's initial grant unless the State has assumed and maintains primary enforcement responsibility for public water systems within the State. (See §§ 142.10 through 142.16 of this chapter.)

(c) If a second grant is made to a State for a period beginning less than 12 months after the date of approval of the State's initial grant, the State grant application shall include a schedule listing the requirements for assumption of primary enforcement responsibility set forth in § 142.10. The schedule shall indicate which requirements have been met by the State, when requirements not met are expected to be met, and when the State expects to file its application for primary enforcement responsibility pursuant to § 142.11. The Regional Administrator shall consider the State's progress toward assuming primary enforcement responsibility in granting funds to the State.

(d) No grant will be awarded if it is determined by the Regional Administrator that Federal grant funds will supplant, rather than supplement, non-Federal funding committed to public water system supervision efforts by the State.

§ 35.620 Allowable Costs.

Allowable costs shall be determined in accordance with § 30.705 of this chapter and by showing that the costs are reasonable and proper for carrying out an approved grant program.

§ 35.622 Budget Period.

The budget period of the grant shall be for the Federal Fiscal Year.

§ 35.624 Reduction of Grant Amount.

(a) If the Regional Administrator determines that the grantee has substantially failed or will fail to achieve the planned accomplishments, the grant amount may be reduced accordingly. This money will be available for use in accordance with § 35.605–1(d).

(b) A State agency shall be notified prior to any reduction, pursuant to paragraph (a) of this section, in the amount of Federal support to that agency. This notification shall include the reasons for reduction and, if appropriate, what steps the agency must take to regain funding including the time frame within which the steps must be taken.

§ 35.626 State Program Plan.

Any State wishing to apply for a grant shall prepare and submit to the Regional Administrator for approval a program plan which satisfies the requirements of this section and contains planned accomplishments. This program plan is Part IV of the Grant Application. (See § 35.611–1). A State may include in the plan submitted to the Regional Administrator any program element listed in § 35.626–1, and any other program element if the State can demonstrate that such other program element is appropriate for the conduct of its public water system supervision program. The essence of the State plan is to relate the utilization of available resources (both Federal and non-Federal) to the achievement of expected accomplishments. The program plan shall describe how the planned accomplishments address the problems in the State and are consistent with the objectives of the Act. Information on the program elements contained in each State's submission shall be presented in summary form and shall include:

(a) The planned accomplishments;

(b) The resources to be expended by the State to produce the planned accomplishments, including anticipated Federal financial and technical assistance; and

(c) For the second grant and subsequent grants, an analysis of the previous year's grant program. This analysis shall compare the planned accomplishments with expected resources, the actual resources expended, and the actual accomplishments.

(d) There will be an annual program evaluation in accordance with § 35.410.

§ 35.626–1 Program Elements of a Public Water System Supervision Program.

The following program elements are appropriate for carrying out public water system supervision programs. Other program elements may be included in the State program plan if the State can demonstrate that such other program element is appropriate for the conduct of its public water system supervision program. For a State with primary enforcement responsibility the State program must include program elements satisfying the requirements of § 142.10 of this chapter.

(a) *Administration and Program Development.* Planning, development and coordination of program activities for the management of a public water system supervision program including general program direction and supervision, and development of staffing and budget needs; development and evaluation of basic water supply legislation, regulations, policies, and public information.

(b) *Surveillance and Technical Assistance.* Sanitary surveys of public water systems on an established schedule with written survey reports to the owners or operators of the public water systems; collection and analysis of samples; review of microbiological and chemical sampling data submitted by the owners or operators of the public water systems to determine compliance with applicable provisions of State primary drinking water regulations; technical assistance to owners or operators of the public water systems and others regarding the planning, design, operation, maintenance, treatment, quality control, cross connection control, and assessment of public water systems.

(c) *Plan Review.* A plan review activity for new public water systems and modifications or additions to existing systems.

(d) *Laboratory Certification.* A laboratory certification or approval program on an established frequency for laboratories from which public water systems propose to submit data to be used in determining compliance with applicable State primary drinking water regulations.

(e) *Laboratory Capability.* Provision and operation of laboratory facilities with capability to perform the type of analyses required by State primary drinking water regulations; or obtaining laboratory services from outside sources.

(f) *Training and Certification.* An activity for the training or certification of water system personnel, plant operators, public water system supervisory personnel and State water supply program personnel.

(g) *Enforcement.* An activity for the establishment and implementation of procedures for administrative and judicial enforcement of State primary drinking water regulations.

(h) *Data Management.* A data management activity to maintain essential records needed for conduct of the public water system supervision program and for submission to the Agency; including the maintenance of an inventory for all public water systems.

(i) *Disease Surveillance and Investigation.* The maintenance of a coordinated activity with State and local agencies to detect, investigate and report suspected waterborne disease outbreaks including diseases associated with chemical contaminants.

(j) *Public Participation.* Activities conducted by the State to encourage informed public involvement in the planning and conduct of the State public water system supervision program and establishment of a system for handling citizen complaints.

(k) *Other.*

§ 35.626–2 Regional Administrator's Action on Grant Application.

(a) Each State's final grant application and program plan shall be approved or disapproved by the Regional Administrator within 45 days of receipt.

(b) Should the Regional Administrator's evaluation of the final grant application reveal that the planned accomplishments are not consistent with the level of funding requested, he shall negotiate with the State either to increase the planned accomplishments or to reduce the grant amount. Funds freed by this procedure will remain within the region to be available for use in accordance with § 35.605–1(d).

§ 35.628 Program Limitations.

The provisions of §§ 35.600–630 shall not apply to any part of a public water system supervision program for a public water system which meets all of the following conditions:

(a) which consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(b) which obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;

(c) which does not sell water to any person; and

(d) which is not a carrier which conveys passengers in interstate commerce.

§ 35.630 Assignment of Personnel.

Upon the written request of a State agency, the Regional Administrator may assign personnel of the Agency to such State agency pursuant to Section 1450(c) of the Act. As provided by Office of Management and Budget Circular A–97 the State agency must reimburse the Agency for the salaries and all other identifiable direct or indirect cost of providing the personnel.

APPENDIX A

Proposed grants for State Public Water System Supervision Programs were published for comment on August 7, 1975, 40 FR 33224. Written comments on the proposed regulations were invited and public hearings were held in San Francisco and Washington, D.C. Seventy-two written or oral submissions were received.

As a result of these comments and further consideration by EPA, a number of changes have been made to the proposed regulations. Comments on three major issues are summarized in the preamble to the final regulations. This Appendix A to the final regulations discusses these and other comments and EPA's response to those comments.

I. *General comments.* In addition to specific comments received on the grant regulations, many general comments were received regarding the grant regulations and the other regulations being developed pursuant to the Act. A number of comments expressed a need for Federal regulation of drinking water and supported strong Federal regulations in this area. Some comments expressed a general feeling that the proposed regulations were too stringent. It was noted in the comments that the Regional Administrators will exercise a great deal of authority under the regulations, but that not all necessary authority was formally delegated to them. The Office of Water Supply is in the process of drafting an EPA order on delegation of authority under the Safe Drinking Water Act. When the order is completed, it will be available to the States and general public upon request.

II. *Routine sample analysis cost.* The preamble to the proposed regulations pointed out that the proposed regulations authorized the use of grant funds to analyze routine monitoring samples for public water systems without charge. The preamble also asked for "comments * * * on the manner in which all routine monitoring costs may be most expeditiously transferred from the States to the public water systems."

Six comments were received supporting the proposal not to restrict the use of grant funds for this purpose. The comments expressed the opinion that any decision to transfer monitoring costs to the public water systems should be made by the States and not EPA. Three comments were received from State water supply agencies which indicated that for them it wouldn't make much difference whether EPA required the utilities to pay for monitoring costs or not. There were six comments favoring the transfer of monitoring costs to the public water systems.

It has been decided to retain the program element for laboratory operations without restrictions on routine sampling analysis. This issue is discussed in greater detail in the preamble to the final regulations.

III. *Definitions.* There were 5 comments on the "Definitions," § 35.603. A number of comments requested that the definitions be alphabetized and that where possible they use the same language as the definitions contained in the interim Primary Drinking Water Regulations (40 CFR, Part 141). Both requests are reflected in the final version of the Grant Regulations. By clarifying and simplifying language in other paragraphs of these regulations, the need for a number of new definitions which were suggested have been eliminated.

IV. *Grant allocation and reallocation.* There were 16 comments on § 35.610 (now 35.605) dealing with the grant allocation formula. Ten comments were in favor of the proposed formula. These comments reflected the belief that this is the most equitable formula that can be developed at this time. Two comments suggested that instead of the number of resident water systems in the formula, the number of people served by community water systems should be used. Two comments were received asking that increased emphasis be placed on small noncommunity systems. One comment was received asking that the deadline for submittal of new inventory data be changed from August 1, 1975 to December 30, 1975. Another comment suggested that the 30% weighting factor for population was too high. One comment asked that the prevalence of drinking water-related health problems be given weight in the allocation formula. It has been decided to retain the proposed allocation formula, with some minor language changes. This issue is explained in more detail in the preamble to the regulations.

In the interest of expediting the allocation of grant funds for FY 76, the August 1, 1975 deadline for the submission of new inventory data has also been retained. The EPA regional offices notified all States of the August 1 deadline during April 1975 and many of the States have made significant improvement to their inventory data between that time and August 1, 1975.

The other suggestions for changes in the weighting factors were not accepted because of the absence of adequate inventory data or adequate data on contamination incidents. Another comment raised the question as to why Guam, American Samoa and the Virgin Islands are not receiving a minimum of one percent of the appropriation. The Act specifically excludes these States from the one percent minimum. The Agency believes, however, that some minimum is necessary to assure that these territories will receive an adequate share of Federal funding and one-third of one percent was selected as a reasonable figure.

Two comments were received which suggested that reallocation under § 35.611(d) (now 35.605–1(d)) be carried out under some type of formula or guidance to the Regional Administrator. This change was not made because this is the last reallocation of the fiscal year and the Regional Administrator should be free to provide the funds to the States which are best able to utilize it. If the State program plans are developed realistically and the States are able to follow their programs plans, no reallocation will be necessary. In order to utilize reallocated funds a State must have sufficient matching funds and a program plan which will support additional funds. It is not expected that all States will be able to do this.

V. *State program plans.* Section 35.615 (now 35.626) received 11 comments in the areas of required program elements, the relationship between the State program plan and the grant application, guidance from EPA, the program plan evaluation, the specific authority of the Regional Administrator and a proposal that the State program plan be developed only after required public participation. Language has been added to § 35.615 (now § 35.626) and § 35.617 (now 35.626–1) to emphasize that the program elements of § 35.618 (now 35.626–1) are optional, and that not all are required and others may be added.

The elements of § 35.618 are intended to identify a broad definition of a public water system supervision program. Federal grant money spent in any of the program elements of § 35.618 can be expended for the purposes of the Act. States with primary enforcement authority, however, must meet the requirements of § 142.10 of this chapter. The primacy requirements of § 142.10 are a more limited group of activities, all contained within the much broader activities identified in § 35.618.

The language of § 35.615 and § 35.630 (now 35.611–1) have also been clarified to indicate that the State program plan is required as part of the grant application form and not as a separate document. Section 35.615 has also been modified to reflect the requirement that a State's evaluation of its previous years program is only necessary if the State received a grant in the previous year.

A new program element has been added to § 35.618 on public participation. Adding public participation to the list clearly identifies it as a desirable part of a public water system supervision program. States can now expend grant funds for public participation without having to justify a new program element to the Regional Administrator. Additional changes to the program elements have been made to include technical assistance in cross-connection control programs, monitoring, and additional language to indicate that the disease surveillance and investigation element should include those problems associated with chemical contaminants.

VI. *Allowable costs*. As a result of a number of comments the allowable cost provisions of § 35.620, has been revised to reference the allowable costs provisions of the general grant regulations § 30.705. This change will allow the States and Regional Administrators more flexibility in determining allowable costs for a public water system supervision program.

VII. *Maintenance of effort*. The maintenance of effort provision § 35.625 (now 35.613(c)) has been simplified. It still conveys EPA's intent that Federal grant funds be used to supplement State funds. The relief possible when State funds are reduced is covered in § 30.1000 of the general grant regulations.

VIII. *Grant application program plan*. Four comments requested that the Regional Administrator formally comment on the draft State program plan of § 35.630(b) (now 35.611-1(d)) within 30 days. EPA Regional program personnel will be working with their State counterparts throughout this program plan development process and EPA's position will be conveyed to the States through these informal relations as it develops. Inserting a formal written comment deadline may reduce the effectiveness of the review.

One comment requested that language be inserted in § 35.636(b) (now 35.624(b)) to allow the State to reject a grant and return primacy to EPA. Section 142.12(c) of the Implementation Regulations contains the provision that will allow a State to relinquish primacy by notifying the Regional Administrator in writing of the State's decision 90 days in advance of the effective date of the decision.

Two comments were received which objected to the grant reduction of § 35.640(a) (now 35.624(a)). As provided for in §§ 35.615 and 35.618, a State is given substantial discretion in planning its program and deciding the activities for which grant funds can be used. If the State is not able to productively use the funds for these planned purposes, they should be available to other States with a need.

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[FRL 468-3]

PART 142—NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

Implementation of Standards

On August 7, 1975, the Environmental Protection Agency (EPA) proposed regulations to implement national primary drinking water regulations to be adopted pursuant to Title XIV of the Public Health Service Act ("the Act"). Title XIV was added to the Act by the Safe Drinking Water Act, Pub. L. 93-523.

National Interim Primary Drinking Water Regulations were promulgated by EPA on December 24, 1975, 40 FR 59566. Those regulations establish maximum contaminant levels for specified microbiological and chemical contaminants and for turbidity. They also establish minimum monitoring requirements, contain requirements for public notification in the event of violation of the regulations and provide for appropriate recordkeeping and reporting by public water systems.

The Implementation Regulations promulgated here pursuant to sections 1413, 1414, 1415, 1416, 1445 and 1450 of the Act seek to implement the primary drinking water regulations in the following basic ways: (1) Subpart B of the Implementation Regulations provides for approval of State programs for the enforcement of State drinking water regulations at least as stringent as the national primary drinking water regulations. A State with an approved program assumes primary enforcement responsibility for most public water systems in the State. (2) Subpart C of the Implementation Regulations provides for periodic EPA review of variances and exemptions from primary drinking water regulations granted by States with primary enforcement responsibility. (3) Subpart D establishes Federal enforcement procedures authorized by the Act. (4) Subparts E and F establish procedures for the granting of variances and exemptions by EPA. With one limited exception, EPA can issue variances or exemptions only in States which do not have primary enforcement responsibility.

Written comments on the proposed regulations were invited, and public hearings were held in San Francisco and Washington, D.C. A total of seventy written comments were received. In all, an aggregate of over 350 discrete remarks were contained in the written submissions and in oral testimony at the public hearings. To a large extent, the proposed regulations have been adopted without major changes. Many comments on the proposed regulations received by EPA explicitly endorsed the basic approach of the regulations, which is to carry out the Congressional intent of providing substantial flexibility to the States in the development and implementation of their drinking water programs. However, a number of specific changes were suggested, and a number of the suggestions have been accepted. The comments received are discussed in Appendix A. The balance of this preamble will discuss some of the significant changes that have been made in the proposed regulations.

Public information and participation. Several citizen groups submitting comments on the proposed regulations requested that further provision be made for public participation and for providing information to the public. A number of changes have been made in the regulations to increase public participation and the availability of information, although not all suggestions received have been accepted.

Some of the changes made relate to public hearings. Sections 142.13, 142.23, 142.44 and 142.54 have been amended to provide that whenever EPA issues a notice of opportunity for public hearing, or issues a notice of the convening of a public hearing, notice will be given in appropriate newspapers as well as by the other means specified in the proposed regulations. Proposed § 142.13, concerning public hearings on a determination that a State qualifies or does not qualify for primary enforcement responsibility, has also been revised to require that at least one hearing be held within the State involved, and to provide that the notice of opportunity for hearing will designate at least one location in the State where the State's application can be reviewed. In addition, §§ 142.13(e), 142.23(d), 142.44(e) and 142.54(e) have been revised to make clear that hearings will be conducted in an informal manner conducive to public participation.

Changes have also been made with respect to the availability of information to the public. A new paragraph (f) has been added to § 142.14, which sets forth record-keeping requirements for States with primary enforcement responsibility, to require that records covered by that section must be maintained and made available for public inspection. The State is given the option of making these records available on its own, or requiring public water systems to make available the records they must keep as required by the interim primary regulations. In addition, a new paragraph (d) has been added to § 142.15, which sets forth requirements for State reports to EPA, to provide that the State must make available to the public the annual report to EPA.

As discussed in Appendix A, some comments suggested that other public participation requirements be imposed by these regulations as conditions for the assumption by a State of primary enforcement responsibility. For example, it was suggested that a State be required to have a Freedom of Information Act as stringent as the Federal Freedom of Information Act, and that State programs be the subject of State hearings prior to the opportunity for hearing offered by EPA. In many States, statutes already in existence will assure availability of information and opportunity for public hearings which go far beyond the minimum requirements of these regulations. EPA urges States to encourage public participation in their drinking water programs. However, to impose additional specific requirements in these regulations would conflict with the Congressional intention that State programs be allowed a large degree of flexibility.

Section 142.10 has been amended to provide that an adequate State enforcement program must include public notification of violations by public water systems. The public notification requirements of the Act, in section 1414(c), are a critical part of the enforcement procedures established by the Act. Those requirements apply to all public water systems, including systems in States which have primary enforcement responsibility, but EPA has concluded that it would be inconsistent with the concept of State primary enforcement responsibility for a State to rely entirely on the Federal public notification requirements. Under § 142.10 as revised, a State will be expected to have its own public notification requirements, although those requirements need not contain all elements of the Federal requirements.

Public water systems covered by State programs. Several States objected to the implicit assumption of the proposed regulations that a State would be required to assume primary enforcement responsibility over all public water systems in the State, including those located on interstate carrier conveyances. These States contended that regulation of water supplied by airplanes, trains and buses traditionally has been the responsibility of the Federal government, and that as a practical matter it should remain with the Federal government.

EPA agrees that the most efficient and effective means of regulating systems on interstate carrier conveyances is by a nationwide program administered by the Federal government. Accordingly, § 142.3 as promulgated provides that a State may qualify for primary enforcement responsibility without regulating systems on carriers which convey passengers in interstate commerce. Section 142.3 also makes clear that a State will not be required to regulate public water systems on Indian lands where the State's jurisdiction is inadequate or is in question. EPA will regulate those public water systems. For all other public water systems in the State, including systems operated by Federal agencies, the State is expected to take the lead in enforcement in order to qualify for primary enforcement responsibility.

This is not to say that all enforcement activities with respect to all other public water systems in the State must be handled directly by the lead State agency. In a number of States, local government agencies bear a substantial amount of responsibility for regulating public water systems. The involvement of local agencies in a State's overall program for regulating public water systems is consistent with the concept of State primary enforcement responsibility. However, in order for a State to qualify for primary enforcement responsibility, the ultimate authority to require compliance with the primary drinking water regulations should rest at the State level. The appropriate State agency should be able to take action when a local agency does not do an adequate job.

Primary enforcement responsibility held by EPA. Several comments raised questions concerning situations in which a State does not qualify for primary enforcement responsibility or decides to discontinue its exercise of primary enforcement responsibility. With respect to discontinuance, a concern was expressed that there could be a gap between State jurisdiction and EPA jurisdiction. Such a gap cannot legally exist, since the Act assumes that EPA will have primary enforcement responsibility whenever a State does not have it. Accordingly, if a State did relinquish primary enforcement responsibility, EPA would immediately have the authority to exercise full enforcement authority under section 1414 of the Act.

In practice, it is expected that State relinquishment of primary enforcement responsibility after it is assumed by the State will be rare. In the event that it does occur, § 142.12(c) as promulgated provides for a 90-day notice to EPA by the State prior to discontinuance of State primacy. Cooperative efforts with the State, and the exercise of emergency authority by EPA under section 1431 of the Act if necessary, should assure that there will be no gap in enforcement.

In a case where EPA does have primary enforcement responsibility, EPA will work with State and local agencies in a joint effort to assure adequate enforcement of applicable regulations.

Requirements for primary enforcement responsibility. Several comments indicated some confusion from the requirement that a State program qualifying for primary enforcement responsibility have statutory or regulatory enforcement authority "adequate to compel compliance with the State primary drinking water regulations in appropriate cases" (§ 142.10(b)(6)). To clarify this requirement, it has been expanded to make clear that State legal authority must include the power to seek injunctions against violations of the State's primary drinking water regulations, the right to enter and inspect public water systems, the right to require appropriate record-keeping and reporting by public water systems, penalties for violation of State primary drinking water regulations, and public notification requirements In addition, of course, State legal authority must cover the other requirements contained in § 142.10, such as the authority to adopt primary drinking water regulations at least as stringent as the Federal regulations.

Subparagraph (v) of § 142.10(b)(6), supplemented by a new § 142.16, includes as one of the necessary elements of State statutory or regulatory authority the power to require a public water system to give public notification of a violation of the State's primary drinking water regulations. Public notification is an essential element of enforcing the National Primary Drinking Water Regulations, and therefore should be part of an adequate State program.

Section 142.16 provides that State public notification should include mandatory notification to users of a public water system whenever the system violates a maximum contaminant level, is granted a variance or exemption, or fails to comply with a schedule for contaminant levels prescribed pursuant to a variance or exemption. However, it is not required that in all respects the State public notification requirements be the same as the Federal requirements contained in § 141.32. Although the Federal requirements are contained in the same part as the National Primary Drinking Water Regulations, they are not technically speaking "primary drinking water regulations" adopted pursuant to Section 1412 of the Act, but rather are enforcement provisions adopted pursuant to Section 1414(c) of the Act. Accordingly, State notification requirements, unlike State primary drinking water regulations, are not required to be at least as stringent as their Federal counterparts.

It should be pointed out that the Federal notice requirements apply to all public water systems, including those in States which have primary enforcement responsibility. Therefore, even though a State does not have to have the same public notification requirements in order to qualify for primary enforcement responsibility, it is highly desirable that State public notification requirements be substantially the same as the Federal requirements to avoid a split in enforcement responsibilities.

Subparagraph (vi) of § 142.10(b)(6) provides that an approvable State program must include legal authority to assess civil or criminal penalties for violation of the State's primary drinking water regulations or public notification requirements. EPA strongly urges the States to adopt the same maximum level of penalties as has been adopted in the Safe Drinking Water Act (up to $5,000 per day civil penalty for a willful violation). If a State's legal authority provides for a lower level of maximum penalties or different types of penalties, the adequacy of the State's penalties will be judged in light of the State's overall enforcement authority.

If the Administrator approves a State program with a maximum level of penalties below that contained in the Safe Drinking Water Act, but subsequently determines that the lower level of maximum penalties has had a significant adverse effect on the adequacy of the State's procedures for enforcement of its primary drinking water regulations, the Administrator will inform the State that it must immediately initiate action to raise the maximum level of penalties in order to retain primary enforcement responsibility.

Section 142.10 of the regulations has also been revised with respect to requirements for a State laboratory certification program. Because a State may be able to qualify for primary enforcement responsibility before EPA can put into effect a National quality assurance program for laboratory certification, Section 142.10 (b)(3) has been revised to provide that the State may maintain an interim program of laboratory approval until the full certification program is in effect. In addition, those States which will conduct all required public water system analyses in State laboratories certified by EPA may be exempted from the laboratory certification program requirement because in such a case the program would not be necessary.

Comments on laboratory certification also raised the possibility of State reciprocity. EPA will interpret the laboratory certification requirement to permit State reciprocity in appropriate cases so that a public water system in one State may be able to use a certified laboratory in another State.

Variances and exemptions issued by EPA. Subparts E and F, establishing procedures for the issuance of variances and exemptions by EPA in cases where the State does not have primary enforcement responsibility, have been retained largely as proposed, although as noted above the hearing procedures were revised in response to comments.

One commenter took the position that the procedures for variances and exemptions issued by EPA should be made mandatory on the States. EPA believes that this would be inconsistent with the purpose of the Safe Drinking Water Act. In particular, it should be noted that section 1413(a)(4) of the Act established as a condition of State primary enforcement responsibility that State variance and exemption procedures be at least as stringent as the detailed provisions of sections 1415 and 1416 of the Act. Paragraph (4) does not, like paragraphs (2) and (3) of section 1413, indicate that those requirements are to be expanded by EPA.

Economic considerations. Total costs to the States to implement these regulations on a phased basis were estimated in the preamble to the proposed regulations as $22 million in FY-76 and $33 million in FY-77, reaching a maximum of $70 million by FY-81.

Public comments were solicited on the cost estimates. A number of States felt the initial years estimates were low, but also acknowledged that it is difficult to judge what the cost estimate should be, since a phased approach is envisioned by EPA. Several commenters felt that the assumption of annual sanitary surveys by 1981 on all public water systems was both unrealistic and, in the case of non-community ground water systems, unnecessary.

EPA concurs that a reduced frequency of sanitary surveys for non-community ground water systems is acceptable and has revised the assumption accordingly. On this basis, the estimated total annual cost to States remains unchanged in FY-76 and FY-77; that is, $22 million and $33 million respectively, and reaches a maximum of approximately $57 million by 1981.

These costs are not in addition to current State expenditures, now estimated at $17 million annually, nor do they include the cost of the routine monitoring required by the National Interim Primary Drinking Water Regulations. Although many States currently perform some of this monitoring at no cost to the supplier of water, especially for small systems, it is the responsibility of the supplier of water to assure that this monitoring is performed. Therefore, the net cost of these regulations by 1981 is estimated to be about $40 million over the current level of expenditures.

Other comments and revisions in the proposed regulations are discussed in Appendix A.

For the reasons given above, Chapter 40 of the Code of Federal Regulations is hereby amended by adding the following new Part 142. The effective date of these regulations is January 20, 1976.

Dated: December 24, 1975.

Russell E. Train,
Administrator.

Subpart A—General Provisions

Sec.
142.1 Applicability.
142.2 Definitions.
142.3 Scope.
142.4 State and Local Authority.

Subpart B—Primary Enforcement Responsibility

142.10 Requirements for a Determination of Primary Enforcement Responsibility.
142.11 Request for Determination of Primary Enforcement Responsibility.
142.12 Determination of Primary Enforcement Responsibility.
142.13 Public Hearings.
142.14 Records Kept by States.
142.15 Reports by States.
142.16 State Public Notification Requirements.

Subpart C—Review of State-Issued Variances and Exemptions

142.20 State-Issued Variances and Exemptions.
142.21 State Consideration of a Variance or Exemption Request.
142.22 Review of State Variances, Exemptions and Schedules.
142.23 Notice to State.
142.24 Administrator's Rescission.

Subpart D—Federal Enforcement

142.30 Failure by State to Assure Enforcement.
142.31 Federal Action.
142.32 Petition for Public Hearing.
142.33 Public Hearing.
142.34 Entry and Inspection of Public Water Systems.

Subpart E—Variances Issued by the Administrator

142.40 Requirements for a Variance.
142.41 Variance Request.
142.42 Consideration of a Variance Request.
142.43 Disposition of a Variance Request.
142.44 Public Hearings on Variances and Schedules.
142.45 Action After Hearing.
142.46 Alternative Treatment Techniques.

Subpart F—Exemptions Issued by the Administrator

142.50 Requirements for an Exemption.
142.51 Exemption Request.
142.52 Consideration of an Exemption Request.
142.53 Disposition of an Exemption Request.
142.54 Public Hearings on Exemption Schedules.
142.55 Final Schedule.

Authority: Secs. 1413, 1414, 1415, 1416, 1445 and 1450 of Pub. L. 93-523, 88 Stat. 1660 (42 U.S.C. 300g-2, 300g-3, 300g-4, 300g-5, 300j-4 and 300j-9).

Subpart A—General Provisions

§ 142.1 Applicability.

This part sets forth, pursuant to Sections 1413 through 1416, 1445 and 1450 of the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523, regulations for the implementation and enforcement of the national primary drinking water regulations contained in Part 141 of this chapter.

§ 142.2 Definitions.

As used in this part, and except as otherwise specifically provided:

(a) "Act" means the Public Health Service Act.

(b) "Administrator" means the Administrator of the United States Environmental Protection Agency or his authorized representative.

(c) "Agency" means the United States Environmental Protection Agency.

(d) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(e) "Federal agency" means any department, agency, or instrumentality of the United States.

(f) "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system; except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except for those resulting from corrosion of piping and plumbing caused by water quality are excluded from this definition.

(g) "Municipality" means a city, town or other public body created by or pursuant to State law, or an Indian tribal organization authorized by law.

(h) "National primary drinking water regulation" means any primary drinking water regulation contained in Part 141 of this chapter.

(i) "Person" means an individual, corporation, company, association, partnership, State, municipality or Federal agency.

(j) "Primary enforcement responsibility" means the primary responsibility for administration and enforcement of primary drinking water regulations and related requirements applicable to public water systems within a State.

(k) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(l) "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(m) "State" means one of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, or the Trust Territory of the Pacific Islands.

(n) "State primary drinking water regulation" means a drinking water regulation of a State which is comparable to a national primary drinking water regulation.

(o) "Supplier of water" means any person who owns or operates a public water system.

(p) "Treatment technique requirement" means a requirement of the national primary drinking water regulations which specifies for a contaminant a specific treatment technique(s) known to the Administrator which leads to a reduction in the level of such contaminant sufficient to comply with the requirements of Part 141 of this chapter.

§ 142.3 Scope.

(a) Except where otherwise provided, this part applies to each public water system in each State; except that this part shall not apply to a public water system which meets all of the following conditions:

(1) which consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(2) which obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;

(3) which does not sell water to any person; and

(4) which is not a carrier which conveys passengers in interstate commerce.

(b) In order to qualify for primary enforcement responsibility, a State's program for enforcement of primary drinking water regulations must apply to all other public water systems in the State, except for:

(1) public water systems on carriers which convey passengers in interstate commerce;

(2) public water systems on Indian land with respect to which the State does not have the necessary jurisdiction or its jurisdiction is in question; or

(3) public water systems owned or maintained by a Federal agency where the Administrator has waived compliance with national primary drinking water regulations pursuant to Section 1447(b) of the Act.

§ 142.4 State and Local Authority.

Nothing in this part shall diminish any authority of a State or political subdivision to adopt or enforce any law or regulation respecting drinking water regulations or public water systems, but no such law or regulation shall relieve any person of any requirements otherwise applicable under this part.

Subpart B—Primary Enforcement Responsibility

§ 142.10 Requirements for a Determination of Primary Enforcement Responsibility.

A State has primary enforcement responsibility for public water systems in the State during any period for which the Administrator determines, based upon a submission made pursuant to § 142.11, that such State, pursuant to appropriate State legal authority:

(a) Has adopted State primary drinking water regulations which (1) in case of the period beginning on the date the national interim primary drinking water regulations are promulgated in Part 141 of this chapter and ending on the date such regulations take effect are no less stringent than such regulations and (2) in the case of the period after such effective date are no less stringent than the interim and revised national primary drinking water regulations in effect under such part;

(b) Has adopted and is implementing adequate procedures for the enforcement of such State regulations, such procedures to include:

(1) Maintenance of an inventory of public water systems.

(2) A systematic program for conducting sanitary surveys of public water systems in the State, with priority given to sanitary surveys of public water systems not in compliance with State primary drinking water regulations.

(3) The establishment and maintenance of a State program for the certification of laboratories conducting analytical measurements of drinking water contaminants pursuant to the requirements of the State primary drinking water regulations including the designation by the State of a laboratory officer, or officers, certified by the Administrator, as the official(s) responsible for the State's certification program. The requirements of this paragraph may be waived by the Administrator for any State where all analytical measurements required by the State's primary drinking water regulations are conducted at laboratories operated by the State and certified by the Agency. Until such time as the Agency establishes a National quality assurance program for laboratory certification the State shall maintain an interim program for the purpose of approving those laboratories from which the required analytical measurements will be acceptable.

(4) Assurance of the availability to the State of laboratory facilities certified by the Administrator and capable of performing analytical measurements of all contaminants specified in the State primary drinking water regulations.

Until such time as the Agency establishes a National quality assurance program for laboratory certification the Administrator will approve such State laboratories on an interim basis.

(5) The establishment and maintenance of an activity to assure that the design and construction of new or substantially modified public water system facilities will be capable of compliance with the State primary drinking water regulations.

(6) Statutory or regulatory enforcement authority adequate to compel compliance with the State primary drinking water regulations in appropriate cases, such authority to include:

(i) Authority to apply State primary drinking water regulations to all public water systems in the State covered by the national primary drinking water regulations, except for interstate carrier conveyances and systems on Indian land with respect to which the State does not have the necessary jurisdiction or its jurisdiction is in question.

(ii) Authority to sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of the State primary drinking water regulations.

(iii) Right of entry and inspection of public water systems, including the right to take water samples, whether or not the State has evidence that the system is in violation of an applicable legal requirement.

(iv) Authority to require suppliers of water to keep appropriate records and make appropriate reports to the State.

(v) Authority to require public water systems to give public notice of violations of State primary drinking water regulations to the extent set forth in § 142.16, and authority to order additional notification when circumstances make more immediate or broader notice appropriate to protect the public health.

(vi) Authority to assess civil or criminal penalties for violation of the State's primary drinking water regulations or public notification requirements, including the authority to assess daily penalties or multiple penalties when a violation continues;

(c) Has established and will maintain record keeping and reporting of its activities under paragraphs (a), (b) and (d) in compliance with §§ 142.14 and 142.15;

(d) If it permits variances or exemptions, or both, from the requirements of the State primary drinking water regulations, it shall do so under conditions and in a manner which is no less stringent than the conditions under which and the manner in which, variances and exemptions may be granted under Sections 1415 and 1416 of the Act (regulations governing the issuance of variances and exemptions by the Administrator in States that do not have primary enforcement responsibility are set forth in Subparts E and F. States with primary enforcement responsibility may adopt procedures different from those set forth in Subparts E and F, provided that the State procedures meet the requirements of this paragraph); and

(e) Has adopted and can implement an adequate plan for the provision of safe drinking water under emergency circumstances.

§ 142.11 Request for Determination of Primary Enforcement Responsibility.

A State may apply to the Administrator for a determination that the State has primary enforcement responsibility for public water systems in the State pursuant to Section 1413 of the Act. The application shall be as concise as possible and describe the State's compliance with each of the five requirements set forth in § 142.10, and include the following information:

(a) The text of the State's primary drinking water regulations, with references to those State regulations that vary from comparable regulations set forth in Part 141 of this chapter, and a demonstration that any different State regulation is at least as stringent as the comparable regulation contained in Part 141.

(b) A description, accompanied by appropriate documentation, of the State's procedures for the enforcement of the State primary drinking water regulations. The submission shall include:

(1) A brief description of the State's program to maintain a current inventory of public water systems.

(2) A brief description of the State's program for conducting sanitary surveys, including an explanation of the priorities given to various classes of public water systems.

(3) A brief description of the State's laboratory approval or certification program, including the name(s) of the responsible State laboratory officer(s) certified by the Administrator.

(4) Identification of laboratory facilities, available to the State, certified or approved by the Administrator and capable of performing analytical measurements of all contaminants specified in the State's primary drinking water regulations.

(5) A brief description of the State's program activity to assure that the design and construction of new or substantially modified public water system facilities will be capable of compliance with the requirements of the State primary drinking water regulations.

(6) Copies of State statutory and regulatory provisions authorizing the adoption and enforcement of State primary drinking water regulations, and a brief description of State procedures for administrative or judicial action with respect to public water systems not in compliance with such regulations.

(c) A statement that the State will make such reports and will keep such records as may be required pursuant to §§ 142.14 and 142.15.

(d) If the State permits variances or exemptions from its primary drinking water regulations, the text of the State's statutory and regulatory provisions concerning variances and exemptions.

(e) A brief description of the State's plan for the provision of safe drinking water under emergency conditions.

§ 142.12 Determination of Primary Enforcement Responsibility.

(a)(1) The Administrator shall act on an application submitted pursuant to § 142.11 within 90 days after receiving such application and shall promptly inform the State in writing of his action. If he denies the application, his written notification to the State shall include a statement of reasons for the denial.

(2) A determination by the Administrator that a State has met the requirements for primary enforcement responsibility shall take effect in accordance with § 142.13.

(3) When the Administrator's determination becomes effective pursuant to § 142.13 it shall continue in effect unless terminated pursuant to paragraph (b) of this section.

(b)(1) The Administrator shall annually review, with respect to each State determined to have primary enforcement responsibility, the compliance of the State with the requirements set forth in § 142.10.

(2) When the Administrator's annual review, or other information available to him, indicate that a State no longer meets the requirements set forth in § 142.10, he shall notify the State in writing of that fact and shall summarize in his notice the information available to him which indicates that the State no longer meets such requirements.

(3) The State notified pursuant to subparagraph (2) of this paragraph may, within 30 days of receiving the Administrator's notice, submit to the Administrator evidence demonstrating that the State continues to meet the requirements for primary enforcement responsibility.

(4) After reviewing the submission of the State, if any, made pursuant to subparagraph (3) of this paragraph the Administrator shall either determine that the State no longer meets the requirements of § 142.10 or that the State continues to meet those requirements, and shall notify the State of his determination. Any determination that the State no longer meets the requirements of § 142.10 shall not become effective except as provided in § 142.13.

(c) If a State which has primary enforcement responsibility determines to relinquish that authority, it may do so by notifying the Administrator in writing of the State's decision at least 90 days before the effective date of the decision.

§ 142.13 Public Hearing.

(a) Before any determination pursuant to § 142.12(a) that a State meets the requirements of § 142.10 for primary enforcement responsibility becomes effective, or any determination pursuant to § 142.12(b) that a State no longer meets the requirements of § 142.10 becomes effective, the Administrator shall provide an opportunity for public hearing on his determination.

(b) The Administrator shall publish notice of any determination specified in paragraph (a) of this section in the FEDERAL REGISTER and in a newspaper or newspapers of general circulation in the State involved within 15 days after making such determination, with a statement of his reasons for the determination. Such notice shall inform interested persons that they may request a public hearing on the Administrator's determination. Such notice shall also indicate one or more locations in the State where information submitted by the State pursuant to § 142.11 is available for inspection by the general public. A public hearing may be requested by any interested person other than a Federal agency. Frivolous or insubstantial requests for hearing may be denied by the Administrator.

(c) Requests for hearing submitted pursuant to paragraph (b) of this section shall be submitted to the Administrator within 30 days after publication of notice of opportunity for hearing in the FEDERAL REGISTER. Such requests shall include the following information:

(1) The name, address and telephone number of the individual, organization or other entity requesting a hearing.

(2) A brief statement of the requesting person's interest in the Administrator's determination and of information that the requesting person intends to submit at such hearing.

(3) The signature of the individual making the request; or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity.

(d) The Administrator shall give notice in the FEDERAL REGISTER and in a newspaper or newspapers of general circulation in the State involved of any hearing to be held pursuant to a request submitted by an interested person or on his own motion. Notice of the hearing shall also be sent to the person requesting a hearing, if any, and to the State involved. Notice of the hearing shall include a statement of the purpose of the hearing, information regarding the time and location or locations for the hearing and the address and telephone number of an office at which interested persons may obtain further information concerning the hearing. At least one hearing location specified in the public notice shall be within the involved State. Notice of hearing shall be given not less than 15 days prior to the time scheduled for the hearing.

(e) Hearings convened pursuant to paragraph (d) of this section shall be conducted before a hearing officer to be designated by the Administrator. The hearing shall be conducted by the hearing officer in an informal, orderly and expeditious manner. The hearing officer shall have authority to call witnesses, receive oral and written testimony and take such other action as may be necessary to assure the fair and efficient conduct of the hearing. Following the conclusion of the hearing, the hearing officer shall forward the record of the hearing to the Administrator.

(f) After reviewing the record of the hearing, the Administrator shall issue an order affirming the determination referred to in paragraph (a) of this section or rescinding such determination. If the determination is affirmed, it shall become effective as of the date of the Administrator's order.

(g) If no timely request for hearing is received and the Administrator does not determine to hold a hearing on his own motion, the Administrator's determination shall become effective 30 days after notice is issued pursuant to paragraph (b) of this section.

(h) If a determination of the Administrator that a State no longer meets the requirements for primary enforcement responsibility becomes effective, the State may subsequently apply for a determination that it meets such requirements by submitting to the Administrator information demonstrating that it has remedied the deficiencies found by the Administrator without adversely sacrificing other aspects of its program required for primary enforcement responsibility.

§ 142.14 Records kept by States.

(a) Each State which has primary enforcement responsibility shall maintain records of tests, measurements and analyses performed on each public water system to determine compliance with applicable provisions of State primary drinking water regulations.

(1) Records of microbiological analyses shall be retained for not less than 1 year. Actual laboratory reports may be kept or data may be transferred to tabular summaries, provided that the information retained includes:

(i) The analytical method used;

(ii) The number of samples analyzed each month;

(iii) The analytical results, set forth in a form which makes possible comparison with the limits specified in § 141.14 of this chapter.

(2) Records of microbiological analyses of check or special samples shall be retained for not less than 1 year in the form of actual laboratory reports or in an appropriate summary form.

(3) Records of turbidity measurements shall be retained for not less than 1 year and shall include at least the following information:

(i) Date and place of sampling.

(ii) Date and results of analyses.

(4) Records of analyses for other than microbiological contaminants or turbidity shall be retained for not less than 40 years and shall include at least the following information.

(i) Date and place of sampling.

(ii) Date and results of analyses.

Records retained by a State pursuant to this paragraph for at least 10 years, may be transferred to the Agency to satisfy the remainder of the required 40 year retention period.

(b) Records required to be kept pursuant to paragraph (a) must be in a form admissible as evidence in State enforcement proceedings.

(c) Each State which has primary enforcement responsibility shall maintain current inventory information for each public water system in the State and shall retain inventory records of public water systems for not less than 40 years. Records retained by a State pursuant to this paragraph for at least 10 years may be transferred to the Agency to satisfy the remainder of the 40 year retention period.

(d) Each State which has primary enforcement responsibility shall retain, for not less than 10 years, files which shall include for each such public water system in the State:

(1) Reports of sanitary surveys;

(2) Records of any State approvals;

(3) Records of any enforcement actions.

(e) Each State which has primary enforcement responsibility shall retain records pertaining to each variance and exemption granted by it for a period of not less than 5 years following the expiration of such variance or exemption.

(f) The records required to be kept by this section shall be maintained and made available for public inspection by the State, or, the State at its option may require suppliers of water to make available for public inspection those records maintained in accordance with § 141.33.

§ 142.15 Reports by States.

Each State which has primary enforcement responsibility shall submit to the Administrator the following information:

(a) Additions or corrections to the State's inventory of public water systems, as such additions or corrections are made if feasible, and in any event by January 1 of each year.

(b) An annual report to be submitted by January 1 of each year, covering the preceding Federal fiscal year ending September 30 of each year, and consisting of:

(1) A summary of violations by public water systems in the State of the primary drinking water regulations and of enforcement actions taken by the State;

(2) A summary of the status of each variance and exemption granted by the State which was in effect during any part of the calendar year.

(c) Prompt notification of the granting of a variance or exemption. The notice shall include a statement of reasons for the granting of the variance or exemption, including support for the need for the variance or exemption and for the finding that the granting of the variance or exemption will not result in an unreasonable risk to health. A single notification statement may be used to report two or more similar variances or exemptions.

(d) The annual report submitted pursuant to paragraph (b) of this section shall be made available by a State to the public for inspection at one or more locations within the State.

§ 142.16 State Public Notification Requirements.

Each State program qualifying for primary enforcement responsibility shall include, at a minimum, the following requirements for public notification by public water systems for violation of State primary drinking water regulations.

(a) Public notification by a supplier of water whenever the supplier's public water system fails to comply with a maximum contaminant level or is granted a variance or exemption from a maximum contaminant level or fails to comply with a schedule for contaminant levels prescribed pursuant to a variance or exemption.

(b) In the case of a commmunity water system (as defined in § 141.2), such notification shall include a notice in the first set of water bills of the system issued after the failure or grant. In the case of a failure to comply with a maximum contaminant level, such written notice shall be repeated not less than once every three months so long as such failure continues; if the system issues water bills less frequently than quarterly, or does not issue water bills, the notice shall be made or supplemented by another form of direct mail. In the case of a failure to comply with a maximum contaminant level which is not corrected promptly after discovery, the supplier of water must give other general public notice of the failure, in addition to notice by direct mail, in a manner required by the State. The additional notice required by the State may consist of notice by newspaper advertisement, by press release or other appropriate means.

(c) If the public water system is a noncommunity water system (as defined in § 141.2), the notice shall be given by conspicuous posting, in a location where it can be seen by consumers, rather than in the manner specified in paragraph (b) of this section.

(d) Notices given pursuant to this section shall be written in a manner reasonably designed to inform fully the users of the system. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, where appropriate, a clear statement that a primary drinking water regulation has been violated and any preventive measures that should be taken by the public. Where appropriate, or where designated by the State, bilingual notice shall be given. Notices may include a balanced explanation of the significance or seriousness to the public health of the subject of the notice, a fair explanation of steps taken by the system to correct any problem and the results of any additional sampling.

(e) Notices required by this section may be given by the State on behalf of the supplier of water.

Subpart C—Review of State-Issued Variances and Exemptions

§ 142.20 State-Issued Variances and Exemptions.

States with primary enforcement responsibility may issue variances and exemptions from the requirements of primary drinking water regulations under conditions and in a manner which are not less stringent than the conditions under which, and the manner in which, variances and exemptions may be granted under Sections 1415 and 1416 of the Act. In States that do not have primary enforcement responsibility, variances and exemptions from the requirements of applicable national primary drinking water regulations may be granted by the Administrator pursuant to Subparts E and F.

§ 142.21 State Consideration of a Variance or Exemption Request.

A State with primary enforcement responsibility shall act on any variance or exemption request submitted to it, within 90 days of receipt of the request.

§ 142.22 Review of State Variances, Exemptions and Schedules.

(a) Not later than 18 months after the effective date of the interim national primary drinking water regulations the Administrator shall complete a comprehensive review of the variances and exemptions granted (and schedules prescribed pursuant thereto) by the States with primary enforcement responsibility during the one-year period beginning on such effective date. The Administrator shall conduct such subsequent reviews of exemptions and schedules as he deems necessary to carry out the purposes of this title, but at least one review shall be completed within each 3-year period following the completion of the first review under this paragraph.

(b) Notice of a proposed review shall be published in the FEDERAL REGISTER. Such notice shall (1) provide information respecting the location of data and other information respecting the variances and exemptions to be reviewed (including data and other information concerning new scientific matters bearing on such variances and exemptions), and (2) advise of the opportunity to submit comments on the variances and exemptions reviewed and on the need for continuing them. Upon completion of any such review, the Administrator shall publish in the FEDERAL REGISTER the results of his review, together with findings responsive to any comments submitted in connection with such review.

§ 142.23 Notice to State.

(a) If the Administrator finds that a State has, in a substantial number of instances, abused its discretion in granting variances or exemptions under Section 1415(a) or Section 1416(a) of the Act or failed to prescribe schedules in accordance with Section 1415(a) or Section 1416(b) of the Act, he shall notify the State of his findings. Such notice shall:

(1) Identify each public water system for which the finding was made;

(2) Specify the reasons for the finding; and

(3) As appropriate, propose revocation of specific variances or exemptions, or propose revised schedules for specific public water systems.

(b) The Administrator shall also notify the State of a public hearing to be held on the provisions of the notice required by paragraph (a) of this section. Such notice shall specify the time and location for the hearing. If, upon notification of a finding by the Administrator, the State takes adequate corrective action, the Administrator shall rescind his notice to the State of a public hearing, provided that the Administrator is notified of the corrective action prior to the hearing.

(c) The Administrator shall publish notice of the public hearing in the FEDERAL REGISTER and in a newspaper or newspapers of general circulation in the involved State including a summary of the findings made pursuant to paragraph (a) of this section, a statement of the time and location for the hearing, and the address and telephone number of an office at which interested persons may obtain further information concerning the hearing.

(d) Hearings convened pursuant to paragraph (b) and (c) of this section shall be conducted before a hearing officer to be designated by the Administrator. The hearing shall be conducted by the hearing officer in an informal, orderly and expeditious manner. The hearing officer shall have authority to call witnesses, receive oral and written testimony and take such other action as may be necessary to assure the fair and efficient conduct of the hearing. Following the conclusion of the hearing, the hearing officer shall forward the record of the hearing to the Administrator.

(e) Within 180 days after the date notice is given pursuant to paragraph (b) of this section, the Administrator shall:

(1) Rescind the finding for which the notice was given and promptly notify the State of such rescission, or

(2) Promulgate with any modifications as appropriate such revocation and revised schedules proposed in such notice and promptly notify the State of such action.

(f) A revocation or revised schedule shall take effect 90 days after the State is notified under paragraph (e)(2) of this section.

§ 142.21 Administrator's Rescission.

If, upon notification of a finding by the Administrator under § 142.22, the State takes adequate corrective action before the effective date of the revocation or revised schedule, the Administrator shall rescind the application of his finding to that variance, exemption or schedule.

Subpart D—Federal Enforcement

§ 142.30 Failure by State to Assure Enforcement.

(a) The Administrator shall notify a State and the appropriate supplier of water whenever he finds during a period in which the State has primary enforcement responsibility for public water systems that a public water system within such State is not in compliance with any primary drinking water regulation contained in Part 141 of this chapter or with any schedule or other requirements imposed pursuant to a variance or exemption granted under Section 1415 or 1416 of the Act; provided, that the State will be deemed to have been notified of a violation referred to in a report submitted by the State.

(b) The Administrator shall provide advice and technical assistance to such State and public water system as may be appropriate to bring the system into compliance by the earliest feasible time.

(c) If the Administrator finds that the public water system fails to comply within 30 days after the date of the notice given to the State pursuant to paragraph (a), and fails to initiate appropriate corrective actions to bring the system into compliance by the earliest feasible time, the Administrator shall give public notice of his findings of noncompliance. Such notice shall be by publication in the FEDERAL REGISTER, and in a newspaper of general circulation or by other appropriate communications media covering the area served by such public water system. The Administrator shall also mail a copy of the notification to the supplier of water.

(d) The Administrator shall request the State to report to him within 15 days from the date of such public notice. Such report shall specify information including but not limited to:

(1) Reasons for any failure by the State to bring the system into compliance,

(2) A timetable with increments of progress by which compliance will be achieved,

(3) Steps that are being taken or will be taken to bring the system into compliance and the reasons for such steps, and

(4) Legal steps that will be taken by the State to assure that the timetable is followed (the State may refer to information on file with the Administrator).

(e) The Administrator, after considering the report submitted by the State within such time period as specified in paragraph (d), will (1) determine that the State has taken appropriate action or (2) determine that the State has abused its discretion in carrying out primary enforcement responsibility by both:

(i) Failing to implement by the sixtieth day after the date of notice given under paragraph (a), adequate procedures to bring the system into compliance by the earliest feasible time, and

(ii) Failing to assure by such day the provision through alternative means of safe drinking water by the earliest feasible time.

§ 142.31 Federal Action.

(a) The Administrator may commence a civil action against a supplier of water whose public water system is not in compliance with a regulation or provision of Part 141 of this chapter or with any schedule or other requirements imposed pursuant to a variance or exemption granted pursuant to Section 1415 or 1416 of the Act:

(1) During a period in which the State in which the system is located does not have primary enforcement responsibility for public water systems.

(2) During a period in which the State in which the system is located has primary enforcement responsibility, if such failure to comply extends beyond the sixtieth day after the date of the notice given pursuant to § 142.30(a), and if

(i) The State fails to submit the report requested by the Administrator as provided by § 142.30(d); or

(ii) The Administrator determines, after considering the report submitted by the State as provided by § 142.30(d), that the State has abused its discretion in carrying out primary enforcement responsibility pursuant to § 142.30(e).

(3) If requested by the chief executive officer of the State in which the system is located or by the agency of such State which has jurisdiction over compliance by public water systems in the State with primary drinking water regulations.

§ 142.32 Petition for Public Hearing.

(a) If the Administrator makes a finding of noncompliance pursuant to § 142.30 with respect to a public water system in a State which has primary enforcement responsibility, the Administrator may, for the purpose of assisting that State in carrying out such responsibility and upon the petition of such State or public water system or persons served by such system, hold, after appropriate notice, public hearings for the purpose of gathering information as described in § 142.33.

(b) A petition for a public hearing pursuant to paragraph (a) of this section shall be filed with the Administrator and shall include the following information:

(1) The name, address and telephone number of the individual or other entity requesting a hearing.

(2) If the petition is filed by a person other than the State or public water system, a statement that the person is served by the system.

(3) A brief statement of information that the requesting person intends to submit at the requested hearing.

(4) The signature of the individual submitting the petition; or, if the petition is filed on behalf of a State, public water system or other entity, the signature of a responsible official of the State or other entity.

§ 142.33 Public Hearing.

(a) If the Administrator grants the petition for public hearing, he shall give appropriate public notice of such hearing. Such notice shall be by publication in the FEDERAL REGISTER and in a newspaper of general circulation or by other appropriate communications media covering the area served by such public water system.

(b) A hearing officer designated by the Administrator shall gather during the public hearing information from technical or other experts, Federal, State, or other public officials, representatives of the public water system, persons served by the system, and other interested persons on:

(1) The ways in which the system can within the earliest feasible time be brought into compliance, and

(2) The means for the maximum feasible protection of the public health during any period in which such system is not in compliance.

(c) On the basis of the hearing and other available information the Administrator shall issue recommendations which shall be sent to the State and public water system and shall be made available to the public and communications media.

§ 142.34 Entry and Inspection of Public Water Systems.

(a) Any supplier of water or other person subject to a national primary drinking water regulation shall, at any time, allow the Administrator, or a designated representative of the Administrator, upon presenting appropriate credentials and a written notice of inspection, to enter any establishment, facility or other property of such supplier or other person to determine whether such supplier or other person has acted or is acting in compliance with the requirements of the Act or Subchapter D of this chapter. Such inspection may include inspection, at reasonable times, of records, files, papers, processes, controls and facilities, or testing of any feature of a public water system, including its raw water source.

(b) Prior to entry into any establishment, facility or other property within a State which has primary enforcement responsibility, the Administrator shall notify, in writing, the State agency charged with responsibility for safe drinking water of his intention to make such entry and shall include in his notification a statement of reasons for such entry. The Administrator shall, upon a showing by the State agency that such an entry will be detrimental to the administration of the State's program of primary enforcement responsibility, take such showing into consideration in determining whether to make such entry. The Administrator shall in any event offer the State agency the opportunity of having a representative accompany the Administrator or his representative on such entry.

(c) No State agency which receives notice under paragraph (b) may use the information contained in the notice to inform the person whose property is proposed to be entered of the proposed entry; if a State so uses such information, notice to the agency under paragraph (b) is not required for subsequent inspections of public water systems until such time as the Administrator determines that the agency has provided him satisfactory assurances that it will no longer so use information contained in a notice received under paragraph (b).

Subpart E—Variances Issued by the Administrator

§ 142.40 Requirements for a Variance.

(a) The Administrator may grant one or more variances to any public water system within a State that does not have primary enforcement responsibility from any requirement respecting a maximum contaminant level of an applicable national primary drinking water regulation upon a finding that:

(1) Because of characteristics of the raw water sources which are reasonably available to the system, the system cannot meet the requirements respecting the maximum contaminant levels of such drinking water regulations despite application of the best technology, treatment techniques, or other means, which the Administrator finds are generally available (taking costs into consideration); and

(2) The granting of a variance will not result in an unreasonable risk to the health of persons served by the system.

(b) The Administrator may grant one or more variances to any public water system within a State that does not have primary enforcement responsibility from any requirement of a specified treatment technique of an applicable national primary drinking water regulation upon a finding that the public water system applying for the variance has demonstrated that such treatment technique is not necessary to protect the health of persons because of the nature of the raw water source of such system.

§ 142.41 Variance Request.

A supplier of water may request the granting of a variance pursuant to this subpart for a public water system within a State that does not have primary enforcement responsibility by submitting a request for a variance in writing to the Administrator. Suppliers of water may submit a joint request for variances when they seek similar variances under similar circumstances. Any written request for a variance or variances shall include the following information:

(a) The nature and duration of variance requested.

(b) Relevant analytical results of water quality sampling of the system, including results of relevant tests conducted pursuant to the requirements of the national primary drinking water regulations.

(c) For any request made under § 142.40(a):

(1) Explanation in full and evidence of the best available treatment technology and techniques.

(2) Economic and legal factors relevant to ability to comply.

(3) Analytical results of raw water quality relevant to the variance request.

(4) A proposed compliance schedule, including the date each step toward compliance will be achieved. Such schedule shall include as a minimum the following dates:

(i) Date by which arrangement for alternative raw water source or improvement of existing raw water source will be completed.

(ii) Date of initiation of the connection of the alternative raw water source or improvement of existing raw water source.

(iii) Date by which final compliance is to be achieved.

(5) A plan for the provision of safe drinking water in the case of an excessive rise in the contaminant level for which the variance is requested.

(6) A plan for interim control measures during the effective period of variance.

(d) For any request made under § 142.40(b), a statement that the system will perform monitoring and other reasonable requirements prescribed by the Administrator as a condition to the variance.

(e) Other information, if any, believed to be pertinent by the applicant.

(f) Such other information as the Administrator may require.

§ 142.42 Consideration of Variance Request.

(a) The Administrator shall act on any variance request submitted pursuant to § 142.41 within 90 days of receipt of the request.

(b) In his consideration of whether the public water system is unable to comply with a contaminant level required by the national primary drinking water regulations because of the nature of the raw water source, the Administrator shall consider such factors as the following:

(1) The availability and effectiveness of treatment methods for the contaminant for which the variance is requested.

(2) Cost and other economic considerations such as implementing treatment, improving the quality of the source water or using an alternate source.

(c) In his consideration of whether a public water system should be granted a variance to a required treatment technique because such treatment is unnecessary to protect the public health, the Administrator shall consider such factors as the following:

(1) Quality of the water source including water quality data and pertinent sources of pollution.

(2) Source protection measures employed by the public water system.

§ 142.43 Disposition of a Variance Request.

(a) If the Administrator decides to deny the application for a variance, he shall notify the applicant of his intention to issue a denial. Such notice shall include a statement of reasons for the proposed denial, and shall offer the applicant an opportunity to present, within 30 days of receipt of the notice, additional information or argument to the Administrator. The Administrator shall make a final determination on the request within 30 days after receiving any such additional information or argument. If no additional information or argument is submitted by the applicant the application shall be denied.

(b) If the Administrator proposes to grant a variance request submitted pursuant to § 142.41, he shall notify the applicant of his decision in writing. Such notice shall identify the variance, the facility covered, and shall specify the period of time for which the variance will be effective.

(1) For the type of variance specified in § 142.40(a) such notice shall provide that the variance will be terminated when the system comes into compliance with the applicable regulation, and may be terminated upon a finding by the Administrator that the system has failed to comply with any requirements of a final schedule issued pursuant to § 141.44.

(2) For the type of variance specified in § 142.40(b) such notice shall provide that the variance may be terminated at any time upon a finding that the nature of the raw water source is such that the specified treatment technique for which the variance was granted is necessary to protect the health of persons or upon a finding that the public water system has failed to comply with monitoring and other requirements prescribed by the Administrator as a condition to the granting of the variance.

(c) For a variance specified in § 142.40(a)(1) the Administrator shall propose a schedule for:

(1) Compliance (including increments of progress) by the public water system with each contaminant level requirement covered by the variance; and

(2) Implementation by the public water system of such control measures as the Administrator may require for each contaminant covered by the variance.

(d) The proposed schedule for compliance shall specify dates by which steps towards compliance are to be taken, including at the minimum, where applicable:

(1) Date by which arrangement for an alternative raw water source or improvement of existing raw water source will be completed.

(2) Date of initiation of the connection for the alternative raw water source or improvement of the existing raw water source.

(3) Date by which final compliance is to be achieved.

(e) The proposed schedule may, if the public water system has no access to an alternative raw water source, and can effect or anticipate no adequate improvement of the existing raw water source, specify an indefinite time period for compliance until a new and effective treatment technology is developed at which time a new compliance schedule shall be prescribed by the Administrator.

(f) The proposed schedule for implementation of interim control measures during the period of variance shall specify interim treatment techniques, methods and equipment, and dates by which steps toward meeting the interim control measures are to be met.

(g) The schedule shall be prescribed by the Administrator within one year after the granting of the variance, subsequent to provision of opportunity for hearing pursuant to § 142.44.

§ 142.44 Public Hearings on Variances and Schedules.

(a) Before a variance or a schedule proposed by the Administrator pursuant to § 142.43 may take effect, the Administrator shall provide notice and opportunity for public hearing on the variance or schedule. A notice given pursuant to the preceding sentence may cover the granting of more than one variance and a hearing held pursuant to such notice shall include each of the variances covered by the notice.

(b) Public notice of an opportunity for hearing on a variance or schedule shall be circulated in a manner designed to inform interested and potentially interested persons of the proposed variance or schedule, and shall include at least the following:

(1) Posting of a notice in the principal post office of each municipality or area served by the public water system, and publishing of a notice in a newspaper or newspapers of general circulation in the area served by the public water system; and

(2) Mailing of a notice to the agency of the State in which the system is located which is responsible for the State's water supply program, and to other appropriate State or local agencies at the Administrator's discretion.

(3) Such notice shall include a summary of the proposed variance or schedule and shall inform interested persons that they may request a public hearing on the proposed variance or schedule.

(c) Requests for hearing may be submitted by any interested person other than a Federal agency. Frivolous or insubstantial requests for hearing may be denied by the Administrator. Requests must be submitted to the Administrator within 30 days after issuance of the public notices provided for in paragraph (b). Such requests shall include the following information:

(1) The name, address and telephone number of the individual, organization or other entity requesting a hearing;

(2) A brief statement of the interest of the person making the request in the proposed variance or schedule and of information that the requesting person intends to submit at such hearing;

(3) The signature of the individual making the request, or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity.

(d) The Administrator shall give notice in the manner set forth in paragraph (b) of this section of any hearing to be held pursuant to a request submitted by an interested person or on his own motion. Notice of the hearing shall also be sent to the persons requesting the hearing, if any. Notice of the hearing shall include a statement of the purpose of the hearing, information regarding the time and location for the hearing, and the address and telephone number of an office at which interested persons may obtain further information concerning the hearing. At least one hearing location specified in the public notice shall be within the involved State. Notice of hearing shall be given not less than 15 days prior to the time scheduled for the hearing.

(e) A hearing convened pursuant to paragraph (d) of this section shall be conducted before a hearing officer to be designated by the Administrator. The hearing shall be conducted by the hearing officer in an informal, orderly and expeditious manner. The hearing officer shall have authority to call witnesses, receive oral and written testimony and take such other action as may be necessary to assure the fair and efficient conduct of the hearing. Following the conclusion of the hearing, the hearing officer shall forward the record of the hearing to the Administrator.

(f) The variance or schedule shall become effective 30 days after notice of opportunity for hearing is given pursuant to paragraph (b) if no timely request for hearing is submitted and the Administrator does not determine to hold a public hearing on his own motion.

§ 142.45 Action After Hearing.

Within 30 days after the termination of the public hearing held pursuant to

§142.44, the Administrator shall, taking into consideration information obtained during such hearing and other relevant information, confirm, revise or rescind the proposed variance or schedule.

§ 142.46 Alternative Treatment Techniques.

The Administrator may grant a variance from any treatment technique requirement of a national primary drinking water regulation to a supplier of water, whether or not the public water system for which the variance is requested is located in a State which has primary enforcement responsibility, upon a showing from any person that an alternative treatment technique not included in such requirement is at least as efficient in lowering the level of the contaminant with respect to which such requirements was prescribed. A variance under this paragraph shall be conditioned on the use of the alternative treatment technique which is the basis of the variance.

Subpart F—Exemptions Issued by the Administrator

§ 142.50 Requirements for an Exemption.

The Administrator may exempt any public water system within a State that does not have primary enforcement responsibility from any requirement respecting a maximum contaminant level or any treatment technique requirement, or from both, of an applicable national primary drinking water regulation upon a finding that:

(a) Due to compelling factors (which may include economic factors), the public water system is unable to comply with such contaminant level or treatment technique requirement;

(b) The public water system was in operation on the effective date of such contaminant level or treatment technique requirement; and

(c) The granting of the exemption will not result in an unreasonable risk to health

§ 142.51 Exemption Request.

A supplier of water may request the granting of an exemption pursuant to this subpart for a public water system within a State that does not have primary enforcement responsibility by submitting a request for exemption in writing to the Administrator. Suppliers of water may submit a joint request for exemptions when they seek similar exemptions under similar circumstances. Any written request for an exemption or exemptions shall include the following information:

(a) The nature and duration of exemption requested

(b) Relevant analytical results of water quality sampling of the system, including results of relevant tests conducted pursuant to the requirements of the national primary drinking water regulations.

(c) Explanation of the compelling factors such as time or economic factors which prevent such system from achieving compliance.

(d) Other information, if any, believed by the applicant to be pertinent to the application.

(e) A proposed compliance schedule, including the date when each step toward compliance will be achieved.

(f) Such other information as the Administrator may require.

§ 142.52 Consideration of an Exemption Request.

(a) The Administrator shall act on any exemption request submitted pursuant to § 142.51 within 90 days of receipt of the request.

(b) In his consideration of whether the public water system is unable to comply due to compelling factors, the Administrator shall consider such factors as the following:

(1) Construction, installation, or modification of treatment equipment or systems.

(2) The time needed to put into operation a new treatment facility to replace an existing system which is not in compliance.

(3) Economic feasibility of compliance.

§ 142.53 Disposition of an Exemption Request.

(a) If the Administrator decides to deny the application for an exemption, he shall notify the applicant of his intention to issue a denial. Such notice shall include a statement of reasons for the proposed denial, and shall offer the applicant an opportunity to present, within 30 days of receipt of the notice, additional information or argument to the Administrator. The Administrator shall make a final determination on the request within 30 days after receiving any such additional information or argument. If no additional information or argument is submitted by the applicant, the application shall be denied.

(b) If the Administrator grants an exemption request submitted pursuant to § 142.51, he shall notify the applicant of his decision in writing. Such notice shall identify the facility covered, and shall specify the termination date of the exemption. Such notice shall provide that the exemption will be terminated when the system comes into compliance with the applicable regulation, and may be terminated upon a finding by the Administrator that the system has failed to comply with any requirements of a final schedule issued pursuant to § 142.55.

(c) The Administrator shall propose a schedule for

(1) Compliance (including increments of progress) by the public water system with each contaminant level requirement and treatment technique requirement covered by the exemption; and

(2) Implementation by the public water system of such control measures as the Administrator may require for each contaminant covered by the exemption.

(d) The schedule shall be prescribed by the Administrator within one year after the granting of the exemption, subsequent to provision of opportunity for hearing pursuant to § 142.54.

§ 142.54 Public Hearings on Exemption Schedules.

(a) Before a schedule proposed by the Administrator pursuant to § 142.53 may take effect, the Administrator shall provide notice and opportunity for public hearing on the schedule. A notice given pursuant to the preceding sentence may cover the proposal of more than one such schedule and a hearing held pursuant to such notice shall include each of the schedules covered by the notice.

(b) Public notice of an opportunity for hearing on an exemption schedule shall be circulated in a manner designed to inform interested and potentially interested persons of the proposed schedule, and shall include at least the following:

(1) Posting of a notice in the principal post office of each municipality or area served by the public water system, and publishing of a notice in a newspaper or newspapers of general circulation in the area served by the public water system.

(2) Mailing of a notice to the agency of the State in which the system is located which is responsible for the State's water supply program and to other appropriate State or local agencies at the Administrator's discretion.

(3) Such notices shall include a summary of the proposed schedule and shall inform interested persons that they may request a public hearing on the proposed schedule.

(c) Requests for hearing may be submitted by any interested person other than a Federal agency. Frivolous or insubstantial requests for hearing may be denied by the Administrator. Requests must be submitted to the Administrator within 30 days after issuance of the public notices provided for in paragraph (b). Such requests shall include the following information:

(1) The name, address and telephone number of the individual, organization or other entity requesting a hearing.

(2) A brief statement of the interest of the person making the request in the proposed schedule and of information that the requesting person intends to submit at such hearing; and

(3) The signature of the individual making the request, or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity.

(d) The Administrator shall give notice in the manner set forth in paragraph (b) of this section of any hearing to be held pursuant to a request submitted by an interested person or on his own motion. Notice of the hearing shall also be sent to the person requesting the hearing, if any. Notice of the hearing shall include a statement of the purpose of the hearing, information regarding the time and location for the hearing, and the address and telephone number of an office at which interested persons may obtain further information concerning the hearing. At least one hearing location specified in the public notice shall be within the involved State. Notice of hearing shall be given not less than 5 days prior to the time scheduled for the hearing.

(e) A hearing convened pursuant to paragraph (d) of this section shall be conducted before a hearing officer to be designated by the Administrator. The hearing shall be conducted by the hearing officer in an informal, orderly and expeditious manner. The hearing officer shall have authority to call witnesses, receive oral and written testimony and take such action as may be necessary to assure the fair and efficient conduct of the hearing. Following the conclusion of the hearing, the hearing officer shall forward the record of the hearing to the Administrator.

§ 142.55 Final Schedule.

(a) Within 30 days after the termination of the public hearing pursuant to § 142.54, the Administrator shall, taking into consideration information obtained during such hearing, revise the proposed schedule as necessary and prescribe the final schedule for compliance and interim measures for the public water system granted an exemption under § 142.52.

(b) Such schedule shall require compliance by the public water system with each contaminant level and treatment technique requirement prescribed by:

(1) Interim national primary drinking water regulations pursuant to Part 141 of this chapter, by no later than January 1, 1981; and

(2) Revised national primary drinking water regulations pursuant to Part 141 of this chapter, by no later than seven years after the effective date of such regulations.

(c) If the public water system has entered into an enforceable agreement to become a part of a regional public water system, as determined by the Administrator, such schedule shall require compliance by the public water system with each contaminant level and treatment technique requirement prescribed by:

(1) Interim national primary drinking water regulations pursuant to Part 141 of this chapter, by no later than January 1, 1983; and

(2) Revised national primary drinking water regulations pursuant to Part 141 of this chapter, by no later than nine years after the effective date of such regulations.

APPENDIX A

Proposed National Interim Primary Drinking Water Implementation Regulations were published for comment on August 7, 1975, 40 FR 33228. Written comments on the proposed regulations were invited, and public hearings were held in San Francisco and Washington, D.C. A total of seventy written comments were received: State agencies (31), general public and public interest organizations (20), local government (6), commercial firms (4), Federal agencies (3), and miscellaneous (6). In all, an aggregate of over 350 discrete comments were contained in the written submissions and in oral testimony at the public hearings.

As a result of these comments a number of changes were made in the proposed regulations. The principal changes are summarized in the preamble to the final regulations. The purpose of this Appendix is to discuss the comments received on various aspects of the proposed regulations, and to explain EPA's response to these comments.

I. SUBPART A—DEFINITIONS AND COVERAGE

1. *General.*—A number of comments requested that the definitions be alphabetized and that where possible they use the same language as the definitions contained in the Interim Primary Drinking Water Regulations (40 CFR Part 141). Both requests are reflected in the final version of the Implementation Regulations.

2. *Public Water System.*—Three comments were directed to the definition of a "public water system" contained in § 142.2(c). Two comments concerned the fact that the proposed regulations expanded on the statutory definition of the Act. The other requested clarification concerning the coverage of employer-owned water supply systems which provide drinking water to employees and business visitors, and to coverage of gasoline stations.

The reason for expanding the statutory definition was to express more specifically the Congressional intent. The statutory definition, contained in § 1401(4) of the Safe Drinking Water Act, covers all systems with at least 15 service connections or "regularly" serving at least 25 individuals. The term "regularly" is not explained in the statute, but the legislative history of the statute makes clear that Congress intended to cover virtually all public accommodations which have their own water supply and serve at least 25 individuals. The proposed regulations therefore explained "regularly" as meaning "daily at least 2 months out of the year." This time period was selected because campgrounds and other public accommodations serving water for as much as two months during the year appear to fall within the classes of facilities Congress intended to cover. To clarify the meaning of the minimum time period, the final version of this definition is expressed in terms of 60 days rather than 2 months. Thus, if a public water system serves the requisite number of service connections or persons for a total of 60 days during a calendar year, even if the service is intermittent, it is a public water system.

It is clear from the breadth of the definition of "public water system" in the Act and from the legislative history that the coverage of the Primary Drinking Water Regulations is not limited to traditional water utilities. Gasoline stations and factories as well as campgrounds, trailer camps, parks, schools, restaurants, motels and other facilities which have their own water systems must comply with the regulations if they serve the requisite number of service connections or the requisite number of persons.

Proposed § 142.3 entitled "Scope," apparently contributed to confusion over the meaning of "public water system." That section, which was taken from section 1411 of the "Act," exempts public water systems from coverage if four conditions are met. In response to comments asking for clarification of the section, it has been revised to make clear that a public water system must meet *each* of the four listed conditions in order to be exempted from the regulations. Thus, a public water system is exempted *only* if it consists only of distribution and storage facilities *and* it obtains all of its water from, but is not owned or operated by, a public water system to which the regulations apply, *and* it does not sell water *and* it is not a carrier which conveys passengers in interstate commerce. Interstate carriers, therefore, are not exempted, even if they have only storage and distribution facilities, obtain all their water from a public water system and do not sell water to the public.

Seven comments requested clarification concerning primary enforcement responsibility for interstate carrier conveyances. Four of the States commenting felt that it would be unrealistic to expect the State water supply agencies to monitor these conveyances and suggested that EPA assume the responsibility. An addition has been made to the final version of the section to place primary enforcement responsibility for interstate carrier conveyances with EPA. This addition also clarifies the EPA-State responsibilities for Federally owned or maintained public water systems. Public water systems on Indian lands over which a State may not have appropriate jurisdiction are specifically excluded as a responsibility of the State. EPA will also have primary enforcement responsibility for these systems.

3. *"Maximum contaminant level" and "contaminant."*—Thirteen comments concerned the definition of "maximum contaminant level" or the definition of "contaminant."

The definition of "contaminant" contained in § 142.2(d) was criticized for its breadth and suggestions were made to limit the definition to contaminants that may be hazardous to the health of consumers. The term as defined includes virtually any constituent in water, including constituents considered to be harmless or even beneficial. The definition was taken directly from Section 1401(6) of the Act. It is not intended to suggest that all constituents in water are undesirable, but rather is intended to permit the regulation of any constituent which may be found to be harmful. The definition has been retained as proposed.

A number of criticisms were directed at the definition of "maximum contaminant level" for requiring measurement of the level at the "free-flowing outlet of the ultimate user of a public water system." This definition carries out the intent of Congress that "drinking water regulations are intended to be met at the consumers tap." (House Report, p. 13) The purpose of the Primary Drinking Water Regulations is to assure that water used by the public is safe. This can be assured only if maximum contaminant levels are met at the tap. The proposed definition did contain a provision that would exempt a public water system from responsibility for contamination of water which is the fault of the consumer. This provision has been retained. The final definition contains minor modifications in language to agree with the definition contained in § 141.2(d) of the Interim Primary Drinking Water Regulations (40 CFR Part 141).

4. *"State primary drinking water regulations".*—One commentor questioned the proposed definition of State primary drinking water regulation as being "comparable" to a national primary drinking water regulation rather than "at least as stringent as" a national regulation. It would not be appropriate to define a State regulation, because a State regulation may not be at least as stringent as a national regulation. That is a judgement to be made by the Administrator when the State program is submitted for approval. However, § 142.10(a) makes it clear beyond doubt that a State program cannot be approved unless the State's primary drinking water regulations are "at least as stringent as" the national regulations.

II. PRIMARY ENFORCEMENT RESPONSIBILITY

1. *General Comments.*—The majority of comments on Subpart B, "Primary Enforcement Responsibility," were in general agreement with the proposed regulations. However, public interest organizations expressed a desire for greater public participation in State programs and a need for public access to State and public water system records.

2. *Section 142.10, Requirements for a Determination of Primary Enforcement Respon-*

sibility.—One comment suggested that a sixth basic requirement for primary enforcement responsibility be added to this section that would require a State to adopt a Freedom of Information Act no less stringent than that of the Federal Government. While we agree that pertinent information should be made available to the general public (most States have already adopted a Freedom of Information Act) we feel it would be contrary to Congressional intent to add to the five substantive conditions provided in the statute. However, within these five conditions, EPA is given a certain amount of discretion in specifying adequate enforcement procedures and the conditions and procedures by which the States will maintain records and make reports. Accordingly, paragraph (e) has been added to § 142.13 "Records Kept by States" to require that records maintained in accordance with § 141.33 of the Primary Drinking Water Regulations be made available for public inspection. The State is permitted the option of making these records available to the public or requiring the supplier of water to provide the public access to those records the public water system is required to maintain in accordance with § 141.33 of the Interim Primary Drinking Water Regulations. In addition, paragraph (d) has also been added to § 142.15, "Reports by States," to require a State to make its annual report to EPA available for inspection by the general public.

The same comments also criticized the proposed regulations for providing for insufficient public participation in major State agency decision making. The commentary cited the lack of public notification and citizen suits provisions and suggested that § 142.10(b), as an adequate procedure for enforcement, require each State to maintain an adequate public participation program.

Section 1414(c) of the Act places the responsibility for public notification on the supplier of water whenever a public water system violates a Federal primary drinking water regulation. The public notification requirements are detailed in § 141.32 of the Primary Drinking Water Regulations. Consequently, they were not included in the proposed Implementation Regulations. EPA believes however, that the intent of Congress was for public notification to be a significant element of enforcement. Subparagraphs (b)(6) of § 142.10 and § 142.11 have therefore been revised to require a State to adopt its own public notification requirements. Moreover, it is implicit in subparagraph (b)(6) of § 142.10 that a State will require certain other legal authority in order to compel compliance with the State primary drinking water regulations. In response to a number of comments, subparagraphs (b)(6) of §§ 142.10 and 142.11 have been revised to elaborate on what is meant by "Statutory and regulatory enforcement authority adequate to compel compliance * * *." The elaboration does not include a requirement that State authority specifically provide for citizens' suits. Citizens' suits can be brought under section 1449 of the Act, but there is no indication in the legislative history of the Act that they should also be required in State programs.

It is also recommended that the States be required to establish and maintain a public participation program and give adequate opportunity for public participation in the development of State plans, including the plan for provision of safe drinking water under emergency circumstances required under § 142.10(e). To accomplish this it was suggested that the proposed Implementation Regulations establish regulations on public participation similar to the regulations adopted pursuant to PL 92-500. It should be noted, however, that regulations on public participation adopted pursuant to PL 92-500 were specifically required by the Act. Section 101(e) of PL 92-500 provides that:

> "Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator and the States shall develop and publish regulations specifying minimum guidelines for public participation in such processes."

No similar statutory requirement is contained in PL 93-523, and the intent in the Safe Drinking Water Act is to provide the States with maximum flexibility in establishing and implementing their programs. In commenting on the 5 basic requirements for primary enforcement responsibility and the Administrator's determination that a State has met these requirements, the House Report (p. 21) states, "* * * the Committee intends EPA to exercise utmost care in passing upon such applications and to deny any such application only upon a clear failure by the State to meet the requirements of this section." Moreover, specific to the requirement that a State have adequate enforcement procedures the House Report (p. 21) adds; "For the purpose of this section, the phrase 'adequate procedures for the enforcement of such State regulations' includes sufficiently expeditious administrative and judicial authorities and procedures to assure that, if properly exercised, these procedures and authorities will obviate the necessity for Federal enforcement under section 1414. This means that a State must be able to take effective action within 60 days after receipt of a notice of noncompliance from EPA to bring a system into compliance at the earliest feasible time."

EPA agrees in principal with the commentary on a need to foster public participation in the implementation of PL 93-523. The preamble to these regulations encourages the States to foster public participation by establishing a State program activity for public participation and encouraging and assisting public input and involvement in State plans for safe drinking water. It is anticipated that this involvement will include input in the development of water supply legislation and regulations; participation in Statewide or areawide planning and participation in the planning for annual program grants. However, for the reasons outlined above, EPA believes that to require States to maintain public participation programs as an enforcement procedure required for primary enforcement responsibility is inappropriate.

The Implementation Regulations, do provide an opportunity for hearing on any determination by the Administrator granting, denying or withdrawing primary enforcement responsibility. In response to a number of comments, the hearings sections of the final regulations have been revised to better insure that notice of hearings reach the general public. In addition to publication in the FEDERAL REGISTER, all notices must now be published in a newspaper of general circulation in the area involved. EPA must hold at least one hearing within the involved State.

Commenting on § 142.10(b)(3), a number of States asked for clarification concerning EPA and State responsibilities on laboratory certification. It is the intent of EPA to certify at least the principal laboratory in each State with other laboratories to be certified by the State laboratory or laboratories qualified to perform this function. The Agency is currently developing analytica quality control guidelines for the certification of drinking water supply laboratorie Until such time that this program can b established, subparagraph (b)(3) has bee revised to allow an interim laboratory "ap proval" by the State if it becomes necessary It is also recognized that in a few States an territories analysis of all samples require by the Primary Drinking Water Regulation will be performed in only one or two laboratories operated by the State and certifie by EPA. Subparagraph (b)(3) has also bee revised to waive the requirement for a State certification program in these cases.

A number of comments requested that reciprocity be allowed in order for a utility in one State to obtain laboratory analysis in another State. The regulations do not prohibit reciprocity between States. Any State may permit a public water system to obtain sample analysis from laboratories in other States provided those laboratories have been certified under the provisions of subparagraph (b)(3).

3. *Section 142.12, Determination of Primary Enforcement Responsibility.*—A large number of comments from both the States and public interest organizations requested the addition of a paragraph to § 142.12 that would permit a State to relinquish primary enforcement responsibility upon formal notification to EPA. Consequently, paragraph 142.12(c) has been added to permit a State to relinquish primacy with a formal notice to EPA at least 90 days prior to the effective date of the decision. The 90 day time frame was suggested by the majority of the commenting States. One comment also suggested that this paragraph contain assurance that there would not be a gap in enforcement responsibility when a State surrenders primacy. This addition was deemed unnecessary, however, since the Act clearly requires that EPA assume primary enforcement responsibility at any time a State does not have this responsibility.

Subparagraphs 142.12(b) (1) and (2) have been revised to require the Administrator to make an annual review of his determination that a State has primary enforcement responsibility. Both States and public interest organizations requested the change. The former felt that a "periodic" review could result in unreasonable review frequencies and the latter were concerned that determinations would be reviewed too infrequently.

III. PUBLIC HEARINGS

A large number of comments were received concerning the various public hearing provisions of these regulations. Commentors suggested that hearing procedures be more informal and that more encouragement be given to public participation. A number of changes have been made to the hearing provisions of the proposed regulations in order to publicize and broaden the opportunity for public participation. The specific comments and changes are discussed in the preamble.

IV. SECTIONS 142.14—RECORDS KEPT BY STATES AND SECTION 142.15—REPORTS BY STATES

1. *Records of Chemical Data.*—A number of comments urged EPA to require that chemical data be kept for a period longer than 10 years. The period most frequently recommended was 30-40 years. It was argued that this period of retention is necessary for the assessment of long-term or chronic health effects of some chemicals. On the other hand, a number of States commented that retaining the records for longer than 10 years would impose an unnecessary burden on their resources. EPA accepts the validity of both viewpoints. Therefore, the revision (§ 142.14(a)(3)) gives a State the option of

transferring its chemical records to EPA after 10 years to satisfy the remainder of a required 40-year retention period. The longer retention period will also provide EPA with an important data base for its standards development functions. Paragraph 142.14(c) has also been revised to include the same requirement for inventory records.

2. *Records of Variances and Exemptions.*—Several comments pointed out that retention of variance and exemption records for 10 years is not necessary and suggested that they be retained for 5 years following the expiration of a variance or exemption. EPA believes this is a more meaningful requirement, particularly in the case of variances. A variance may be in effect for a period longer than 10 years, thus creating a situation where records collected during the first years of the variance could be destroyed. Therefore, paragraph 142.14(e) of the revised regulations require that records pertaining to each variance or exemption be retained for at least 5 years following the expiration of such variance or exemption.

3. *Public Access to Records.*—One comment recommended that records required to be kept by the States under § 142.14 and reported to EPA under the provisions of § 142.15 be made available to the public. Most States now have a Freedom of Information Act, and reports submitted to EPA will be available to the public under the Federal Freedom of Information Act. To ensure, however, that the public will have access to this information, paragraph 142.14(f) of the final regulations has been added. This paragraph gives a State the option of making these records available to the public or requiring the supplier of water to give the public access to those records the public water system is required to maintain in accordance with § 141.33 of the Interim Primary Drinking Water Regulations. Paragraph (d) has also been added to § 142.15 to require that the annual report submitted by a State to EPA be made available to the public by the State at one or more locations within the State.

4. *Date of Annual Report.*—The principal criticism of § 142.15 concerned the date for submission of a State's annual report to EPA. A large number of States felt that the February 1 deadline for submission of an annual report covering the preceding calendar year was unrealistic since only 30 days would be available to develop, assemble and submit the report. A number of States recommended that the annual report cover the Federal fiscal year period. These points are well made. Paragraphs 142.15 (a) and (b) have been revised to require that the States submit an annual report to EPA by January 1 of each year covering the Federal fiscal year ending September 30.

5. *Reports on Variances and Exemptions.*—Paragraph (c) of § 142.15 requires a State to notify promptly EPA when it grants a variance or exemption. One comment expressed an opinion that the word "prompt" needed further definition. It was further suggested that a State report "immediately" variances and exemptions granted for violations of maximum contaminant levels for carcinogens, and all other contaminant levels in excess of 120% of the limit; and report "quarterly" those variances and exemptions granted for violations of maximum contaminant levels less than 120% of the limit. "Prompt notification" is the language of the Act and the statute requires that EPA be promptly notified of all variances and exemptions granted regardless of the degree to which the contaminant level is exceeded. While the word "immediate" may convey a greater sense of urgency, EPA does not believe there is any significant justification for the change.

V. SUBPART D—FEDERAL ENFORCEMENT

1. *Public Water System Violations.*—A number of criticisms were directed at the language of § 142.30(a) which provides that the Administrator notify a State when he finds that a public water system within the State is not in compliance with any regulation or provision of Part 141 of the Primary Drinking Water Regulations. The intent of this section was to confine the action taken by the Administrator to specific violations of the primary drinking water regulations. Paragraph (a) has been revised accordingly.

2. *Notice to a Supplier of Water.*—One comment noted that the supplier of water is not notified of impending action by the Administrator until 30 days after the Administrator has given notice of the noncompliance to the State (§ 142.30(c)). Paragraph (a) of § 142.30 has been revised therefore to require that, in addition to notifying the State, the Administrator notify the supplier of water of his finding of noncompliance.

3. *Public Hearings to Assist Compliance.*—A number of comments were directed at the fact that paragraph (a) of § 142.34 did not specify the method for the notice of a public hearing. The revised paragraph now provides that such notice will be published in the Federal Register and in a newspaper of general circulation or by other appropriate communications media covering the areas served by the public water system.

VI. SUBPARTS C, E AND F—VARIANCES AND EXEMPTIONS

1. *State-Issued Variances and Exemptions.*—One comment expressed criticism of the proposed regulations for not making the regulations on variances and exemptions, contained in subparts E and F, applicable to the States. Section 142.20 requires only that variances and exemptions issued by a State be issued under conditions and in a manner no less stringent than those provided for in sections 1415 and 1416 of the Act. The commentary was concerned in particular with the manner in which a State would define the requirement in sections 1415 and 1416 of the Act that states, "the State shall provide notice and opportunity for public hearing."

In proposing the regulations on variances and exemptions a number of factors were considered. Section 1413 of the Act specifies 5 substantive conditions for primary enforcement responsibility. For two of these conditions—enforcement procedures, and recordkeeping and reporting—EPA is specifically expected to elaborate on the requirements by regulation. The condition concerning variances and exemptions only provides that a State allow them under conditions and in a manner no less stringent than those specified under sections 1415 and 1416 of the Act. These two sections of the Act provide detailed direction. In consideration of this and in keeping with Congressional intent to provide the States with maximum flexibility in implementing the Safe Drinking Water Act, the final regulations do not impose additional requirements for variances and exemptions on the States. It is expected that the States will establish procedures for public hearings that will encourage public participation. Should a State abuse its discretion in granting variances and exemptions, including inadequate provision for public hearings, EPA may commence action leading to the eventual revocation of a variance or exemption and schedules.

2. *Notice to State.*—Section 142.23 of these regulations requires the Administrator to notify a State when he finds the State has abused its discretion in granting variances and exemptions and hold hearings on his findings. Section 142.24, "Administrator's Recision" provides for the Administrator to rescind his finding on a variance, exemption or schedule if a State takes corrective action before the effective date of the revocation or revised schedule. One comment suggested that the Administrator also rescind his notice to a State if the State takes corrective action prior to the hearing. This recommendation has been accepted. Paragraph 142.24 (b) has been revised accordingly.

3. *Variances and Exemptions Issued by the Administrator.*—The principal comments on subparts E and F concerned the hearings provisions. Comments and changes to the final regulations on the hearing sections of these regulations have been discussed in the preamble.

One comment criticized the variance request section for its complexity and felt that a State should be able to grant variances and exemptions without a request from the supplier of water. It should be pointed out again that subparts E and F contain those procedures and conditions under which EPA will grant a variance or exemption if the Agency is required to assume primary enforcement responsibility in a State. Sections 1415 and 1416 of the Act, under which a State will be granting variances and exemptions, do not require that the request be initiated by the supplier of water. In fact the regulations under which EPA will operate does not prevent the Agency from granting a variance or exemption without a request.

Another comment requested that the term "unreasonable risk to health" be clarified. It was recommended that criteria for both chronic and acute health risks be developed and included in the regulations or as a separate set of guidelines and criteria. EPA has been considering the need and feasibility of developing such criteria, and may issue criteria at a future date in the form of program guidance.

APPENDIX B

ECONOMIC CONSIDERATIONS

NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS

IMPLEMENTATION AND GRANTS FOR STATE PUBLIC WATER SYSTEM

SUPERVISION PROGRAMS

The estimated cost impact of the Implementation and Grant Regulations on State water supply programs are based primarily on information collected by the EPA Water Supply Division over the last 6 years. This includes the Community Water Supply Study which was completed in 1970 and 13 State water supply program evaluations conducted by EPA's Regional Offices. In 1971 the Water Supply Division compiled a paper on State program budgets from information obtained from the States by the Regional Offices. In 1973 the Water Supply Division, with the assistance of the Conference of State Sanitary Engineers, developed a "rationale" for estimating State water supply program costs. Twenty-six States responded to a request from CSSE to estimate costs for a satisfactory program based on the "rationale."

With the information obtained from these sources the Water Supply Division developed and published a "Manual for the Evaluation of a State Drinking Water Supply Program" in 1974. Concurrently with the development of this manual the National Sanitation Foundation developed a manual containing staffing and budgetary guidelines for State water supply programs. Both publications are utilized extensively for the rationale, assumptions and procedures used in developing the cost estimates given below.

Estimated costs are based on program activities and staffing needed by the States to implement the Safe Drinking Water Act. These costs relate principally to a level of program capability that will be needed to meet the conditions for primary enforcement responsibility contained in the regulations. The six principal activities of a State program used to derive these costs estimates are (1) surveillance and technical assistance, (2) laboratory certification, (3) enforcement, (4) data management, (5) laboratory capability, and (6) administration and program development. The key program element influencing the phased approach to the State program cost estimates is surveillance and technical assistance. The estimates reflect a phased buildup of program capability to conduct sanitary surveys and provide technical assistance to public water systems. It is assumed that initially sanitary surveys would be conducted at the larger community systems that use surface water sources and at systems that fail to comply with the interim primary regulations. Sanitary surveys of community water systems using groundwater and at small systems serving the traveling public would be conducted as State program capability increases. The costs reflect the assumption that by 1981, a State will be conducting an average of one annual sanitary survey for each community water system and non-community surface water system and an average of a biennial survey for each non-community ground water system.

Estimated total costs to the States for the six principal activities in FY 76 and FY 77 are $22 million and $33 million respectively. By the end of the assumed 6-year phase-in period State program costs would reach an estimated $57 million annually.

These preliminary estimates of costs to the States do not appear excessive or inflationary. It is estimated that the States are currently spending $17 million annually on water supply activities. This includes some $4 million to $5 million for routine monitoring.

The additional cost of routine water quality monitoring of public water systems required by the interim primary drinking water regulations have not been included in these estimates. The interim regulations place the responsibility for this monitoring on the public water systems. Although it is the Congressional intent that the supplier of water bear the responsibility for the cost of routine monitoring, many States presently perform some degree of routine monitoring at no charge to the public water system. This is particularly true for the smaller systems. Based on the monitoring requirements of the interim primary regulations, the increased annual monitoring costs are estimated at $14–$30 million. If the analyses are performed at State laboratories the cost will be at the low end of the range. Utilization of commercial laboratories will result in the higher cost.

It is estimated that the States are currently absorbing 50 percent of all costs for public water system water quality monitoring now conducted. As the interim primary regulations' requirements increase the analytical work load, it is expected that the States will shift the cost of routine monitoring as quickly as feasible to the public water systems in accordance with the Congressional intent that the systems bear the full cost of routine monitoring.

TABLE 1.—*Estimated State water supply program costs for 56 States, territorial jurisdictions and the District of Columbia*

Program activity	1976		1977		1978		1979		1980		1981	
	Million	Man-years	Million	Man-years	Million	Man-years	Million	Man-years	Million	Man-years	Million	Man-years
Engineering surveillance and technical assistance	$4.9	245	$9.8	490	$14.7	735	$20.0	1,000	$24.0	1,150	$24.0	1,150
Laboratory certification	1.3	60	1.3	60	1.3	60	1.3	60	1.3	60	1.3	60
Enforcement	3.7	234	3.7	234	3.7	234	5.9	364	5.9	364	5.9	364
Data management	3.2	156	5.9	208	5.9	208	6.9	260	6.9	260	6.9	260
Laboratory	2.9	260	2.9	260	2.9	260	2.9	260	2.9	260	2.9	260
Subtotal	16.0	955	23.6	1,252	28.5	1,497	37.0	1,944	40.6	2,094	40.6	2,094
Administration and program development[1]	6.4	239	9.4	313	11.4	374	14.8	486	16.8	526	16.8	526
Total	22.4	1,194	33.0	1,565	39.9	1,871	51.8	2,430	57.4	2,620	57.4	2,620

[1] Cost, 40 percent of activities 1-6; manpower, 25 percent of activities 1-5.

I. ENGINEERING SURVEILLANCE AND TECHNICAL ASSISTANCE

Required Activities

(1) Sanitary Surveys.
(2) Review of Design and Construction.
(3) Variances and Exemptions.
(4) Technical Assistance.
(5) Inventory.

The principal element of this activity is the sanitary survey. The Implementation regulations require, as one of the conditions for primacy, that a State adopt and maintain a program for conducting sanitary surveys of public water systems, with priority given to sanitary surveys of systems not in compliance with State primary drinking water regulations.

The following calculations develop costs for a systematic program of sanitary surveys that will phase this activity in over a period of 6 years following the effective date of the National Interim Primary Drinking Water Regulations June 1977) and will give first priority to the larger community systems and those systems not in compliance with State primary drinking water regulations.

The sanitary survey is broader in scope than a field visit and inspection of water system facilities. Technical assistance must be provided to water system personnel not only during the field visit but in the form of follow-up reports and periodic assistance on the planning, design, operation, maintenance, treatment, etc. of a water system. Bacteriological and chemical data must be reviewed for each water system as well as plans and specifications for construction of water system facilities.

A practical and convenient approach to developing cost estimates for the sanitary survey and its related activities is to define the costs in terms of an average cost per system. Based on past Office of Water Supply experience, this activity will require an average of 4 man-days per year for each community system, 1 man-day per year for each non-community surface water system and ½ man-day per year for each non-community ground water system.

The EPA implementation regulations will permit the States to develop their own procedures for granting variances and exemptions so long as they are granted in a manner and under conditions that are consistent with those specified in PL–93–523. This element of a State program will include both engineering surveillance and enforcement activities. The engineering surveillance activities will be closely related to the sanitary survey. For this reason the cost for the following activities are included: (1) collect sufficient technical data and information on a system (including on-site evaluation) to determine if a variance or exemption should be granted. (2) Determine if the granting of a variance or exemption will result in an unreasonable risk to the health of water system users. (3) Propose compliance schedules for variances and exemptions including interim control measures for contaminants. (4) Conduct on-site assessments of each system's "incremental progress" in complying with a schedule. (5) Provide technical assistance to each system. (6) Review plans and specifications for construction of facilities required to bring a system into compliance.

ASSUMPTIONS

(1) Basic workload indicator—number of systems.

(2) 4 man-days for community systems—1 man-day for non-community surface water system and ½ man-day for non-community ground water system.

(3) Cost per man-year is $20,000 (salary, travel, and one-third man-year secretarial support).

(4) 220 man-days per man-year.

(5) Sanitary surveys phased in over 6 year period.

(6) Costs based on 40,000 community systems and 200,000 other public systems.

(7) 20% of community systems and 5% of other public systems have surface sources.

(8) Average of an annual survey for each community and non-community surface water system and biennial survey for other system by end of 6 year phase-in period.

CALCULATIONS

Assumed schedule of sanitary surveys

	Number of systems	Number of man-days
1. Community (surface)	8,000	32,000
Community (ground water)	5,500	22,000
Year totals	13,500	54,000
2. Community (ground water)	19,000	76,000
Community (surface)	8,000	32,000
Year totals	27,000	108,000
3. Community (all)	40,000	160,000
Noncommunity (surface)	2,000	2,000
Year totals	42,000	162,000
4. Community (all)	40,000	160,000
Noncommunity (surface)	10,000	10,000
Noncommunity (ground)	50,000	50,000
Year totals	100,000	220,000
5. Community (all)	40,000	160,000
Noncommunity (surface)	10,000	10,000
Noncommunity (ground)	95,000	95,000
Year totals	145,000	265,000
6. All public systems	145,000	265,000

Summary of resources—Engineering surveillance and technical assistance

Year	Man-year	Cost (millions of * dollars)
1	245	4.9
2	491	9.8
3	736	14.7
4	1000	20.0
5	1150	24.0
6	1150	24.0

II. LABORATORY CERTIFICATION

Required Activities.—A principal activity of a State water supply program will be the approval and certification of laboratories conducting analysis of water samples required by the primary drinking water regulations. The Interim Primary Drinking Water Regulations specify that samples will be used for determining compliance only if they have been analyzed by a laboratory approved by the State. Costs are estimated for 3 activities:

(1) Certification of bacteriological and chemical laboratories.

(2) Certification of water system operators responsible for making required turbidity measurements.

(3) Analysis of samples for quality control.

Bacteriological Laboratory Certification.—Based on the sampling requirements of the interim primary regulations the following table is an estimate of the number of bacteriological samples required annually for community water systems.

System size	Average monthly sampling frequency	Number of systems	Number of samples required per year (all systems)	Number of systems with current laboratory capability (number of samples required)	
25 to 99 persons	1	6,414	76,968	*242	(2,904)
100 to 499	1	15,003	180,036		
500 to 999	1	5,598	67,176	169	(2,028)
1,000 to 2,499	2	5,349	128,376	318	(7,632)
2,500 to 4,999	4	2,696	129,408	264	(12,672)
5,000 to 9,999	8	1,952	187,392	291	(27,936)
10,000 to 24,999	17	1,664	339,456	314	(64,056)
25,000 to 49,999	40	705	338,400	179	(85,920)
50,000 to 99,999	75	353	317,700	116	(104,400)
100,000 to 249,999	120	178	256,320	87	(125,280)
250,000 to 499,999	180	49	105,840	40	(86,400)
500,000 to 999,999	250	28	84,000	18	(54,000)
Over 1,000,000	430	11	56,760	9	(46,440)
Total		40,000	1,448,476	2,047	(619,668)

*Estimate also includes capability for the 100–499 system size.

The interim primary regulations also require that 200,000 other public systems sample quarterly but allow the States to modify this frequency based on a sanitary survey. The maximum number of samples required per year is 800,000.

ASSUMPTIONS

Based on the current EPA inventory of community water supplies, 2,047 of the 40,000 systems now conduct their own bacteriological analysis.

(1) 2,047 community water systems will maintain their own bacteriological laboratory.

(2) The States will certify each of the 2,047 water system laboratories annually. For systems with a population of 1,000 or more, quality control samples will be analyzed monthly at the rate of 5% of the required number or a minimum of 2 per month, whichever is the greater number. For systems serving a population of less than 1,000, quality control samples will be analyzed at the rate of 1 per month.

(3) State, local government and commercial laboratories will analyze samples for the other 38,000 community systems and 200,000 other public systems on a fee basis. These laboratories will be certified triennially and quality control samples analyzed on a quarterly basis.

(4) Due to the small number of samples that will be required from the other 38,000 community and 200,000 small systems (less than 100 samples per day per average state) few bacteriological laboratories will be required. There are however a large number of local health departments that will analyze small numbers of samples from the small public systems. Cost estimates will be based on the assumption that at least one bacteriological laboratory will be available for every 4 counties in the U.S. (1000 laboratories). The average laboratory work load will be approximately 8 samples per day.

157

(5) Each water system laboratory will be approved and certified annually at a cost of $300 per laboratory (3.5 man-days) and each of the county and commercial laboratories will be certified triennially at the rate of $480 per laboratory (5.5 man-days).

CALCULATIONS

1. *Certification of water system laboratories*

$$\frac{2047 \text{ labs} \times 3.5 \text{ man-days}}{220 \text{ man-days/year}} = 32.6 \text{ man-years}$$

$$2{,}047 \text{ labs} \times \$300/\text{laboratory} = \$614{,}100$$

2. *Certification of Commercial and other laboratories*

$$\frac{1{,}000 \text{ laboratories} \times \frac{5.5 \text{ man-days}}{3}}{220 \text{ man-days/year}} = 8.4 \text{ man-years/year}$$

$$1000 \text{ labs} \times \frac{\$480/\text{laboratory}}{3} = \$160{,}000$$

3. *Quality control analysis for water system laboratories*

System size	Number of systems	Number of samples per month/system	Number of samples per year
25 to 999	411	1	4,932
1,000 to 49,999	1,366	2	32,784
50,000 to 99,999	116	4	5,568
100,000 to 249,999	87	6	6,264
250,000 to 499,999	40	9	4,320
500,000 to 999,999	18	12	2,592
Over 1,000,000	9	21	2,268
Total	2,047		58,728

Cost:

$$58{,}728 \text{ samples} \times \$5/\text{sample} = \$293{,}640$$

Manpower:

$$\frac{\$2.50/\text{sample} \times 58{,}728 \text{ samples/year}}{\$20{,}000/\text{man-years/year}} = 7.34 \text{ man-years}$$

4. *Quality control analysis for other laboratories*

Cost:

$$4 \text{ samples/year} \times 1{,}000 \text{ laboratories} = 4{,}000 \text{ samples/year}$$

$$4{,}000 \text{ samples/year} \times \$5/\text{sample} = \$20{,}000/\text{year}$$

Manpower:

$$\frac{\$2.50/\text{sample} \times 4{,}000 \text{ samples/year}}{\$20{,}000/\text{man-year/year}} = 0.5 \text{ man-years}$$

Chemical Laboratory Certification.—Based on the sampling requirements of the interim primary regulations approximately 19,000 samples for inorganic analysis will be collected annually from some 40,000 community systems. This will require the average of an analysis of 1.6 samples per day per State. For pesticides 5,800 samples will be collected per year. Pesticide sampling for groundwater systems will be left to the discretion of the States. For the 200,000 other public systems the only chemical sampling required is for nitrate analysis and the sampling frequency will be left to the discretion of the States. The net effort of these requirements will mean no more than an average of 2 or 3 chemical samples per working day per State. Since this small workload will support relatively few laboratories the costs for this activity are considered minimal.

ASSUMPTIONS

(1) Only State and commercial laboratories will have the capability of performing the chemical analysis required.

(2) A maximum of 2 laboratories per State will be required.

(3) Chemical laboratories will be certified triennially.

(4) Cost of certification—$480 per lab (5.5 man-days).

(5) Quality control analysis—one sample/yr./lab at $226/sample.

CALCULATIONS

(a) Certification:

$$100 \text{ laboratorys} \times \frac{5.5 \text{ man-days/laboratory}}{3}$$

$$= 183 \text{ man-days} = 0.8 \text{ man-years}$$

$$\frac{\$480/\text{laboratory} \times 100 \text{ laboratorys}}{3} = \$16{,}000/\text{year}$$

(b) Quality control analysis:

$$100 \text{ laboratorys} \times 1 \text{ sample/year} \times \$226/\text{sample}$$

$$= \$22{,}600/\text{year}$$

$$100 \text{ laboratorys} \times 3.65 \text{ man-days/sample} = 365 \text{ man-days}$$

$$= 1.66 \text{ man-years}$$

Total cost = $38,600/year
Manpower = 2.46 man-years

Operator Certification for Turbidity Measurements.—All surface water systems (8,000 community and 10,000 other public systems) will be required to make daily turbidity measurements.

ASSUMPTIONS

(a) The States will conduct ½ day courses every 3 years to train and approve one operator from each of the 18,000 systems.

(b) Each class will train 25 operators.

(c) Cost—$30 per operator per class.

CALCULATIONS

Cost:

$$6{,}000 \text{ operators/year} \times \$30/\text{operator} = \$180{,}000/\text{year}$$

Manpower:

$$\frac{\$180{,}000/\text{year}}{\$20{,}000/\text{man-year/year}} = 9 \text{ man-years}$$

Summary—Laboratory certification

	Cost (dollars)	Manpower (Man-Years)
Bacteriological laboratories:		
Water utility	$907,740	39.94
Commercial	180,000	8.90
Chemical laboratories	38,600	2.46
Operator (turbidity)	180,000	9.00
Totals	1,306,340	60.30

III. ENFORCEMENT

Required Activities.—This program element will include 2 major activities: (1) administrative or judicial action with respect to public water systems not in compliance with the State primary drinking water regulations (2) granting of variances and exemptions from the State primary drinking water regulations. Other activities will include the development and evaluation of basic water supply legislation, regulations and policies, and action taken under the emergency powers provisions of PL-93-523.

The EPA implementation regulations will permit the States to develop their own procedures for granting variances and exemptions so long as they are granted in a manner and under conditions that are consistent with those specified in PL-93-523.

1. Variances and exemptions:

(a) Assess data and information on a system to determine if a variance or exemption should be granted.

(b) Give notice and provide opportunity for public hearings on each variance and hold hearings.

(c) Prescribe compliance schedules.

(d) Give notice and provide an opportunity for public hearings on each compliance schedule and hold hearings.

(e) Develop a file and document the need for each variance or exemption.

(f) Monitor each system for "incremental progress" in complying with a schedule.

2. Non-Compliance: Take necessary judicial or administrative action with respect to public water systems not in compliance with the State primary drinking water regulations.

3. Other Activities: (a) Emergency powers-orders, injunctions, civil actions.

(b) Development and review of water supply legislation.

ASSUMPTIONS

Costs for State enforcement can be estimated using two basic approaches. (1) An estimate of the number of man-years required for each detailed activity such as the number of variances and exemptions granted, number of hearings held etc. (2) An estimate of the minimum size and type of staff required to handle this type of activity in a typical State.

Costs for this activity are estimated using the latter approach. The first method is subject to too large a number of variables. It is difficult to estimate, with any degree of certainty, the number of variances and exemptions that will be requested. It would also be difficult to determine the number and duration of hearings required. The State is only required to provide an opportunity for public hearings on variances and exemptions. Hearings may also be held for more than one variance or exemption at one time. Furthermore it would not be possible to determine with any degree of accuracy the number of systems for which the State will have to seek enforcement action for noncompliance.

1. A typical State water supply program enforcement activity will require as a minimum the following staff personnel during the period 1976–1978. This will enable a State to develop and evaluate basic water supply legislation, regulations, and policies, and implement and enforce the State's interim primary drinking water regulations.

Personnel (man-years):	*Salary costs per annum*
Senior attorney (1)	$20,000
Administrative law judge (½)	12,500
Engineer (1)	15,000
Clerks (1)	9,000
Secretary (1)	7,000
Total (4½)	63,500

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2. It is expected that enforcement staff activity will increase when the State's revised primary drinking water regulations become effective in 1979. A typical State will add a junior lawyer, clerk, secretary and full-time administrative law judge in 1979.

Personnel (man-years):	Salary costs per annum
Senior attorney (1)	$20,000
Junior attorney (1)	15,000
Administrative law judge (1)	25,000
Engineer (1)	15,000
Clerks (2)	18,000
Secretary (2)	14,000
Total (7)	107,000

3. Each program will contract for ½ man-year for a clerk-stenographer to record hearings and civil proceedings at $12,000 man-year.

4. 45 days of per diem and travel, per year will be required each for 4 persons (lawyer, law judge, engineer, stenographer) to attend hearings and other proceedings at a cost of $40 day person.

5. Each territory and the D.C. will require ⅓ of the enforcement cost of a typical State.

CALCULATIONS

1. Cost for 1976-1978:

(a) Personnel

$$\$63,500\times 50=\$3,175,000$$

$$\frac{\$63,500\times 6}{3}=\frac{127,000}{\$3,302,000}$$

(b) Travel and Per Diem

$40/day/person×45 days/year×4 persons = $7,200/year

50 States×7,200/year = $360,000

$$6 \text{ jurisdictions}\times 7,200/\text{year}=\frac{14,400}{\$374,400}$$

Annual Totals for years 1976-1978—$3,676,400

2. Costs for 1979-1981:

(a) Personnel

$$\$107,000\times 50 \text{ States}=\$5,350,000$$

$$\frac{107,000\times 6}{3}=\frac{214,000}{\$5,564,000}$$

(b) Travel and Per Diem

$40/day/person×45 days/year×4 persons = $7,200/year

50 States×7,200/year = $360,000

$$\frac{6\times 7,200/\text{year}}{3}=\frac{14,400}{\$374,400}$$

Annual Totals for Years 1976-1981 = $5,938,400

IV. DATA MANAGEMENT

A. *Required Activities.*—In order to obtain primary enforcement responsibility, a State will be required to collect, evaluate and maintain data obtained from public water systems pursuant to the requirements of the Primary Drinking Water Regulations and report to EPA on a number of its activities.

1. *Data Collection, Evaluation and Maintenance.*—(a) Bacteriological and chemical data from public systems pursuant to the requirements of the primary drinking water regulations.

(b) Inventory of public water systems.

(c) Reports of sanitary surveys.

(d) Records of any State approvals.

(e) Enforcement actions.

(f) Records pertaining to variances and exemptions.

2. *Reports to EPA.*—(a) Annual summary of public water systems violations.

(b) Annual up-date of the public water system inventory.

(c) Prompt notification of all variances and exemptions granted.

(d) Annual summary of the status of each variance and exemption.

Costs for this activity will be based on the State's use of an automatic data processing system. Due to the large amount of information that must be handled, ADP should represent the minimum costs to the States for this activity.

Costs are phased in over a 6 year period. In 1976 the principal activity will be the development of the ADP program and establishing an inventory of public water systems. In 1977 and 1978 data will be collected from public water systems pursuant to the requirements of the Interim Primary Drinking Water Regulations. During 1979-1981 data inputs will increase as the revised regulations become effective. In addition to a broader scope of water quality contaminants, information on treatment, operation and maintenance will be collected and maintained.

ASSUMPTIONS

1. *Personnel.*—(a) One computer programmer for maintaining the ADP system including:

(1) running the data input programs.

(2) producing standard reports.

(3) producing monthly reports to EPA.

(4) developing programs to handle special requests.

Annual Personnel Cost—$12,000.

(b) Data clerks will be used to input data from public water systems; 1976—1 Data Clerk; 1977-1978—2 Data Clerks; 1979-1981—3 Data Clerks.

Annual Personnel Costs per Clerk—$6,000.

(c) One secretary will be required to support ADP activities.

Annual personnel cost—$6,000.

2. *Equipment*—(a) Each State water supply program will have access to a central State computer system to store and process data.

(b) All data will be entered by typing the data on a cassette tape in a medium speed data transmission terminal. An up-date program will be run once a day to read the cassette and up-date the master computer file.

(c) The ADP activity will require: 1976—2 cassette tape data entry terminals at $165/month/terminal, 1 printer at $900/month; 1977-78—3 cassette tape data entry terminals, 1 printer; 1979-81—4 cassette tape data entery terminals, 1 printer.

(d) Data transmission from central computer—$100/hr.

(e) Data entry time to central system from each terminal—½/hour/day.

(f) Programmers computer connection time for 1976—½ hr/day.

(g) Programmers computer connection time—2 hours/day for 1977-81.

(h) Each of the 5 territorial jurisdictions and D.C. will require ⅓ the man-power and costs of a typical State.

CALCULATIONS

1. *Personnel*

1976: 3 man-years and $24,000 per State

1977-1978: 4 man-years and $30,000 per State

1979-1981: 5 man-years and $36,000 per State

2. *Equipment*

1976:

Entry terminals: $165/month×2×12 month/year = $3,960/year

Printer: $900/month×12 month = $10,800/year

Subtotal = $14,760

1977-1978:

Entry terminals: $165/month×3×12 month/year = $5,940/year

Printer: $900/month×12 month = $10,800/year

Subtotal = $16,740/year

1979-1981:

Entry terminals: $165/month×4×12 months = $7,920/year

Printer = $10,800

Subtotal = $18,720

3. *Data transmission and retrieval*

1976:

Data input: ½ hr/day×220 days/year×$100/hour = $11,000/year

Retrieval: ½ hr/day×220 days/year×$100/hour = $11,000/year

1977-1978:

Data input: 1 hr/day×220 days/year×$100/hour = $22,000

Retrieval: 2 hr/day×220 days/year×$100/hour = $44,000

1979-1981:

Data input: 1½ hr/day×220 days/year×$100/year = $33,000

Data Retrieval: 2 hrs/day×220 days/year×$100/year = $44,000

Totals per State

	1976	1977-78	1979-81
States:			
Personnel	$24,000 (3)	$30,000 (4)	$36,000 (5)
Equipment	14,760	16,740	18,720
Line time	22,000	66,000	77,000
Total	60,760	112,740	131,720
Territorial jurisdictions and District of Columbia	20,250	37,580	43,900

National totals

	Man-years	Cost
1976	156	$3,159,500
1977 to 1978	208	5,862,500
1979 to 1981	260	6,849,400

V. LABORATORY CAPABILITY

Required Activities.—The Implementation Regulations do not require that a State Water Supply Program maintain its own laboratory, only that the State have laboratory facilities available with the capability of performing analytical measurements of all contaminants specified in the State Primary Drinking Regulations. This will permit a water supply program to use other State facilities or contract out the work.

The two major areas of required State laboratory activity will be quality assurance analysis and analysis of special non-routine samples. Costs associated with quality assurance certification activity have been included in the laboratory certification section. Special non-routine sample analysis will include:

(1) Collection and analysis of samples to support testimony at public hearings and enforcement actions against public water systems.

(2) Special studies such as studies of reservoirs and watersheds.

(3) Sampling and analysis during emergencies such as natural disasters.

(4) Analysis of samples from public water systems to support actions against hazardous materials spills.

ASSUMPTIONS

Since the number of samples that would be analyzed under this activity cannot be estimated with any degree of accuracy the cost estimates are based on the cost of the smallest laboratory staff capable of maintaining an activity. Cost of laboratory equipment is not included. In most cases, however, State Water Supply Programs either have their own equipped laboratory or have access to combined facilities for other environmental programs. In any case the amortization of major laboratory equipment would result in an annual cost that would not be substantial in relation to personnel costs.

1. A typical State Laboratory will have one chemist and a laboratory aide for the chemical laboratory section and one microbiologist and a laboratory aide for the bacteriological laboratory section. One secretary will be shared by the two sections.

	Annual salary/ persons
1 Chemist	$15,000
1 Microbiologist	15,000
2 Laboratory aides (each)	9,000
1 Secretary	7,000
Total annual personnel costs	55,000

Man-years—5.

2. Each of the 5 Territorial jurisdictions and D.C. will require ⅓ the cost of a typical State.

CALCULATIONS

Manpower:

$$5 \text{ persons/laboratory} \times \left(50 \text{ States} + \frac{6}{3} \text{Jurisdictions}\right) = 260 \text{ man-years}$$

Cost:

$$\$55{,}000 \times \left(50 \text{ States} + \frac{6}{3} \text{Jurisdictions}\right) = \$2{,}860{,}000$$

VI. ADMINISTRATION AND PROGRAM DEVELOPMENT

Required Activities.—This program activity will plan, develop and coordinate program activities described in the preceding sections. This activity will include the development and evaluation of staffing, budget and equipment needs and provide general program direction and supervision.

ASSUMPTIONS

1. Costs for this activity will include:

(a) Salaries and travel for administrative personnel.

(b) Personnel, accounting and purchasing services.

(c) Overhead—rent, utilities, equipment, supplies, printing and maintenance.

(d) Employment benefits for insurance, social security, medical care, and retirement.

2. Based on past water supply program experience the man-power requirement will be estimated at 25 percent of the man-power requirement for the other program activities and the cost will be estimated at 40 percent of the cost of the other program activities. The rationale for these figures is contained on pages 27-28 of the Manual for the Evaluation of a State Drinking Water Supply Program.

REFERENCES

1. *A Manual for the Evaluation of a State Drinking Water Supply Program*, Environmental Protection Agency, no. 430/9-74-009, 1974.

2. *Staffing and Budgetary Guidelines for State Drinking Water Supply Agencies*, National Sanitation Foundation, May 1974, Ann Arbor, Michigan.

3. *Economic Evaluation of the Interim Primary Drinking Water Standards*, EPA contract No. 68-01-2865, October 1975, Energy Resources Co. Inc., Cambridge, Mass.

[FR Doc.75-1448 Filed 1-19-76;8:45 am]

APPENDIX D

GROUNDWATER QUALITY PROBLEMS IN OREGON

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GROUNDWATER QUALITY PROBLEMS IN OREGON

Beginning at the northwest corner of the State, the area of Clatsop, Columbia and Washington Counties north of the Sunset Highway is either deficient in ground water or the ground water that is available is high in sodium chloride and other minerals such as iron and manganese. This is ancient water and the minerals in the ground water has been leached from the soils. There is little, if any, recharge of the ground water in these three counties.

In the western portion of Clatsop County, there is some ground water in the dunes along U.S. 101. The U.S. Geological Survey has estimated there is approximately 10 million gallons per day available with a reliable source of about 5 to 5½ million gallons per day in the sand dunes between U.S. 101 and the foothills. The dune water between the beach and U.S. 101 is high in iron and must be chemically treated. If more than the 5½ million gallons a day is removed from these sand dunes, there is no guarantee that the problem of salt water intrusion will not occur.

The ground water in the Tualatin Basin in Washington County is generally very hard water. The city of Beaverton has a water softening plant. The Polk, Yamhill, and Washington County areas east of the coast range are deficient in ground water. There are many well holes drilled in these counties that are dry, and a comparison of the rainfall curve and stream runoff hydrograph will show that the water runs off almost as quickly as it falls on the ground.

The French Prairie portion of the lower Willamette Valley has been reported by the U.S.G.S. to have a large volume of ground water available. However, there are some areas where the quality of this water is highly mineralized. The wells in the Aurora-Donald area have evidenced high iron and manganese. The wells in the Woodburn area pump sand and there has to be provision made in the construction of the wells to prevent this sand problem.

In the area north of Albany on the west side of the Willamette River in Benton County, in the area generally referred to as North Albany, there is only a very shallow acquifer and many times this consists of gravels from the surface down to the very poor water quality strata some 40 or 50 feet below the ground surface. Many of the homes are served by shallow wells and they are also served by septic tanks. Some of the homes are located very close to the wells. The city of Albany has purchased the Camp Adair water filtration plant that was built during World War II.

The area of Linn County east of Corvallis and east of the Willamette River has ground water that is very highly mineralized. There have been wells drilled in this area where the water could not be used for domestic purposes.

There is a small area east of I-5 in Marion County immediately east of Salem where sampling by the Oregon State Board of Health (now Health Division) showed the ground water was excessively high in arsenic. For this reason the people that live in this area are now served by a community water supply system.

The area in the upper (southern) portion of the Willamette Valley is generally served by wells. Harrisburg and Junction City are communities that are served by ground water. The gravel deposits along the lower McKenzie River at the junction with the Willamette River would indicate that there should be a great deal of ground water available. However, exploration by the Ranney Corp. showed that there was so much organic matter in the sands and gravels that they could not construct a Ranney collector in these river gravels. The area east of I-5 in the Eugene-Springfield area has been served in the past by wells. In some cases this area is served by shallow wells located along the river - either along the Middle Fork of the Willamette or along the McKenzie River.

Ground water in certain areas south of the City of Eugene is excessively high in arsenic. This ground water is usually obtained from the subsurface strata known as the Fischer formation. An extensive report on this has been prepared in years past and the presence of arsenic is generally known by local residents.

The portion of Douglas County located east of the coast range and along Highway I-5, has been reported in years past to be deficient in ground water. There are some rather isolated areas where there is some ground water available, but there are also numerous areas where the ground water contains excessive amounts of chemicals which make the water unusable for domestic purposes without treatment. The County Engineer has been collecting data on this problem and may also have delineated some of the areas where limited amounts of ground water of acceptable quality would be available.

There are also numerous areas in Josephine and Jackson County that ground water does not exist in either quantity or quality in sufficient amounts that could be used by community water supply systems. One small community, that has relied on shallow ground water wells, has found that they must now abandon these wells and construct a water filtration plant on the river that flows near the town.

Ground water obtained along the Oregon coast from Warrenton to Brookings is generally extremely high in iron and, in some cases, both iron and manganese. There are only a very few of the communities along the Oregon coast that have been able to make use of ground water. It has been necessary to provide iron removal treatment, however.

The Columbia River basalt formation is generally reported to contain good quality and, in many cases, quantities of water that can be used for domestic water supply by communities. This formation extends up the Deschutes River basin to the vicinity of Bend, Oregon. South of Bend, along Highway 97 between Bend and Klamath Falls, there are some rather high capacity wells that have been drilled in recent months and with few exceptions, the water seems to be good quality. There are some wells, however, located along the Deschutes River that have produced water with excessive amounts of iron in it.

In the Klamath Falls area, there are ground waters that are warm and, in some cases, contaminated with amounts of hydrogen sulfide.

In the Lakeview area, there has been a water quality problem for many years. This is a blackish precipitate that occurs in the water when certain of the sources are used. It is believed to be a manganese problem.

The central portion of Oregon, from Fossil to John Day and Burns, does contain some perched ground water and there have been instances where the wells have gone dry. If the wells are not drilled into this perched water, some have produced adequate amounts of water for community water systems. The Fossil area does contain ground water with floride approaching the excessive level. From Arlington, in Gilliam County, to Pendleton and northward to the Columbia River is an area that is high in hydrogen sulfide. The ground water in this area may have to be treated before the residents could use the water for domestic purposes.

Along the Snake River, near the eastern border of Oregon, the communities have tapped ground water that has the same mineral characteristics as the water in the Snake River, in that it is very hard and is softened at Ontario before it is used.

There are areas in southeast Oregon, particularly in Malheur County, where the ground water is contaminated by heavy metals, including cadmium. At times, this chemical problem can be prevented by drilling only shallow wells.

Leo G. Farr, P.E.
May 2, 1975

APPENDIX E

LOCATION OF APPROVED BACTERIOLOGICAL LABORATORIES

STATE OF OREGON
LOCATION OF
APPROVED BACTERIOLOGICAL LABORATORIES

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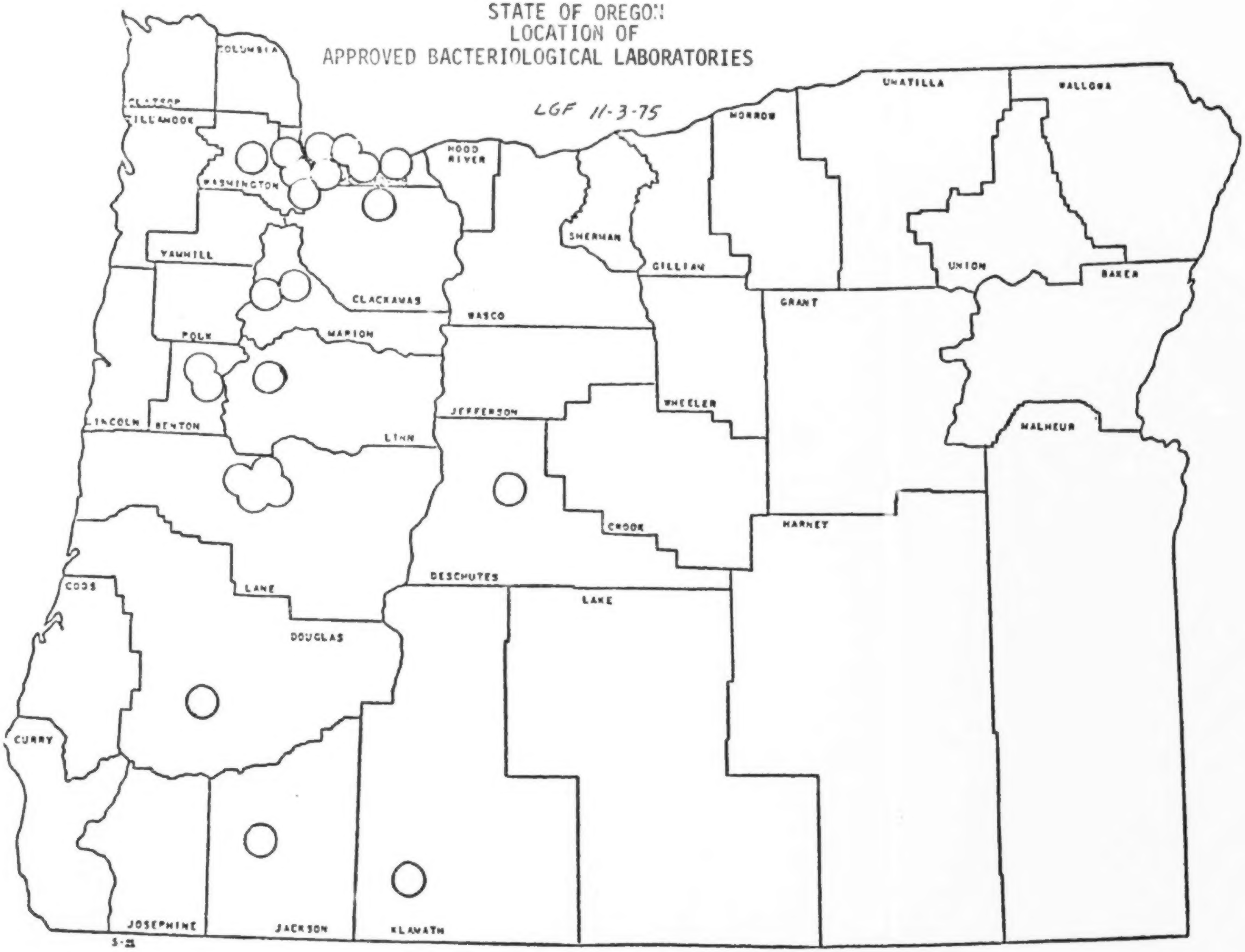
COLUMBIA
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TILLAMOOK
WASHINGTON
HOOD RIVER
SHERMAN
GILLIAM
MORROW
UMATILLA
WALLOWA
UNION
BAKER
YAMHILL
CLACKAMAS
WASCO
MARION
POLK
GRANT
LINCOLN
BENTON
LINN
JEFFERSON
WHEELER
MALHEUR
CROOK
HARNEY
DESCHUTES
LANE
LAKE
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DOUGLAS
CURRY
JOSEPHINE
JACKSON
KLAMATH
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